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Medical, Surgical, and Pharmaceutical

REPOSITORY.

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PART I.

ORIGINAL COMMUNICATIONS.

I.

A General View of the Diseases usually occurring in Boys during the Period between Infancy and Puberty, deduced from Observation of those in Christ's Hospital. By Henry Field, Member of the Society of Apothecaries, London, and Apothecary to Christ's Hospital.

(Continued from Page 42, Vol. II.)

Table of Diseases, 1814.	June.	July.	Aug.
1 Cynanche Tonsillaris	2	3	3
2 ——— Trachealis	1	1	1
3 Tussis Catarrhalis	2	—	—
4 Febris Synochus	5	6	1
5 Odontalgia Catarrhalis	3	—	—
6 Otalgia	—	2	—
7 Obstipatio	1	1	—
8 Nausea, Gastrodynia, and Diarrhœa	6	9	4
9 Icterus	2	—	1
10 Peritonitis	—	1	—
11 Pleurodyne	2	—	—
12 Prurigo Mitis	2	2	1
13 Urticaria	—	—	1
14 Varicella	3	—	—
15 Erythema Nodosum, *(Willan)*	1	—	—
16 Obstipitas Catarrhalis, *(Sauvages)*	1	—	—
Total	31	25	12

The diseases of the summer period have neither been numerous nor very important. The early part of the season was considerably colder than usual: since which time there has been much fine weather, and some very sultry days. The sickness in this House during the month of August will appear to have been unusually little; but some allowance must be made for the vacation, which occupied the greater part of that month, and in which about one fourth part of the boys were absent, upon leave, with their friends in different parts of the country. The intestinal diseases have been, in general, very slight; and seem, in the greater number of instances, to have been the consequences of improper ingesta, rather than the effect of the season. The cases of fever have been, in proportion to other diseases, somewhat numerous; but were, for the most part, mild; and though, in two or three of the boys, fever was protracted to a considerable length, yet, they are all either recovered, or are in a very favourable state for recovery.

No fatality whatever has occurred during the last three months.

Christ's Hospital, 6th Sept. 1814.

II.

Two Cases of Dyslochia Instrumentalis Cephalatomia. By H. G. Clough, M. D.

As cases do not often occur in obstetric science worthy of being recorded, the following two of *Dyslochia Instrumentalis Cephalatomia*, are the more willingly presented to the profession.

Case I.

Jane Burgess, the wife of a labourer residing at No. 5, Phœnix Alley, Long Acre, twenty-nine or thirty years of age; rather of a low stature, and much deformed in the dorsal and lumbar vertebræ, being pregnant with her first child, was admitted in the month of February last as a lying-in patient of the Endeavour, to be delivered at her own habitation. The symptoms of approaching labour were apparent on Tuesday the 26th of April, but it was not until the following morning that any discharge of consequence took place; with a very small but trifling dilatation of the os uteri, barely sufficient to admit the point of the little finger. In this state she passed over several days and nights, with very little variation, excepting as to the discharge, which now assumed a greenish hue. Her pains, which were for the most part pretty strong, had very little effect in dilating the os uteri; and on passing an examination or two per vaginam, the hand

was covered with meconium, a circumstance generally remarked as indicating transverse presentations, but which is also not unfrequently known to occur in head presentations. During the whole of this period, she had been attended by several of my pupils, alternately relieving each other.

On Sunday the 1st of May, about three in the morning, I was again requested to attend, when I found her much in the same state; the pains were bearing strongly downwards, but with very little effect on the uterine orifice. On passing however another examination, I found it would readily admit my two fingers, or was about the size of a three shilling piece; and on encreasing it by dilatation, I discovered the vertex of the cranium in the superior aperture of the pelvis, resting on the symphisis pubis; and the os frontis on the lumbar vertebræ; with a presentation of the funis, in several convolutions on the right side, between the sacro-ischiatic symphisis and the body of the pubis, with evident and strong pulsations. As it was very desirable to place the funis out of the way of compression, this was attempted; but after many repeated trials, it could not possibly be effected, by reason of the extreme distortion of the spine, and the approximation of the sacrum and pubis. I was now very anxious to ascertain, by a more accurate examination, the exact dimensions of the pelvis, as well as the presenting part. The cranium had entered the superior aperture, with its vertex downwards, without making the turn in the longest diameter, and was completely wedged in between the pubis and sacrum, about two inches below its margin. It was with no small difficulty, by introducing my hand sideways in the pelvis, where part of the funis had protruded, that I could trace the sutures and fontanelles. The pelvis in the shortest diameter scarcely measured the breadth of my two fingers, or about an inch and a half distance, so that the hope of the labour being naturally concluded, or of the cranium descending lower into the pelvis, was now at an end; and the trial given up. With the intent of relieving the woman from the tortures of her unavailing pains, convinced that the cranium could not possibly pass in any direction without being opened, its volume lessened, and the contents discharged; although very repugnant to my feelings, I determined to perform the operation of cephalatomia. The narrowness of the pelvis, the paucity of labour pains, which every hour lessened in frequency and strength, the debility of the patient, and an intermitting pulse, indicating the great danger of further delay, further determined me on having immediate recourse to the operation. The pains she had hitherto experienced, were such as are generally observed at the commencement, and characteristic of labours of this class being principally confined to the

umbilicus. She was also much oppressed by flatus in the stomach and bowels; which was greatly relieved by a mixture of ammonia, camphor, and opium. Several aperient injections were administered, although she was not constipated, nor was the retention of urine during the labour sufficient to render the introduction of the catheter necessary.

Having represented the state of my patient to her husband and friends, and convinced them that the only chance of saving her life was by an operation, they readily acceded to my opinion; and about eleven at noon, on the 1st of May, the operation was performed, the patient's sister and another friend being present.

As the cranium still remained in the situation already described, I made my perforation with the cephalometer, near the sutura lambdoidalis, or rather anterior to the posterior fontanelle; and with the assistance of Mr. Moss, effected a large opening, through which the contents of the cranium were readily evacuated; and any other aperture rendered unnecessary. Having waited more than an hour, in expectation of the cranium, thus emptied, passing into the inferior aperture of the pelvis, (as it sometimes happens) in vain; I succeeded, after many unsuccessful trials, for several hours, with the crotchet and blunt hook, in bringing away several portions of the parietal bones. About four in the evening, influenced by the patient's anxiety and long suffering, and her unwillingness to submit to any further trials, I judged it better to desist for a time; and to endeavour to procure some rest for her by means of an opiate. I enjoined quiet for some hours, and desired her apartment to be restrained from visitors, that she might be perfectly composed. I then left her, and returned again about eight in the evening; when, finding her in the same restless state, with an unwilling disposition as to any further assistance, and as the cranium remained in the same situation, I again left her for the night; after giving her one grain of opium in the form of a pill; and recommended her to pursue the same plan with respect to medicines as before; and to endeavour to seek repose during the night. During my absence in the evening, her impatience and that of her friends had induced them to send for another gentleman in my own neighbourhood; whose opinion, as I conceived there had been no necessity for his assistance, I had not ascertained, nor was even anxious about, convinced that more could not have been effected by any one, under all the circumstances, nor till time had produced some favourable alteration.

About twelve at night the husband again called me up; but I thought it more adviseable to defer giving my assistance till the morning; about four o'clock on Monday however, hav-

ing been again requested to attend, I discovered, on passing an examination per vaginam, that the remaining portions of the cranium, enveloped within the integuments, had passed through the superior aperture into the lower chamber of the inferior aperture of the pelvis; and were almost bearing on the peritoneum. Appearances now wore a more favourable aspect. There was no deficiency of labour pains; the pulse was quick, but rather low, and she had passed her urine frequently. I now passed one finger crooked into the internal part of the cranium; and with the assistance of the crotchet fixed in another part, which I requested my pupil, Mr Moss, to pull by, in the direction of the axis of the pelvis, I obtained possession of the head; the shoulders and body of the child soon followed; and the woman was delivered of a boy at half-past five in the morning. The placenta, adhering in some parts, could not immediately be extracted. There was no hæmorrhage of any consequence, although some apprehensions were entertained on that account.

I now gave her another opiate pill about eight in the morning, and left her, after seeing her put comfortably into bed. She recovered as well as in the most common cases; indeed I had never observed a patient recover so well, or in so short a space of time, during the whole course of my practice: as a proof of which, at the end of a fortnight from her accouchement, having occasion to pass that way, I observed her taking in milk at the door of her habitation. From the time she was first taken in labour until the delivery was completed, was computed to be one hundred and sixteen hours.

It has been observed by Dr. Merriman, that cases of this class do not occur oftener than about once in two hundred and thirty-six* or two hundred and fifty-five† labours, and that the cephalometer had been used once only in one thousand three hundred and thirty-one cases at *L'Hotel de la Maternité* in Paris; turning being much oftener there had recourse to; one hundred and sixty-one cases having terminated in that way. In my practice it has occurred more frequently; viz. at the St. Mary-le-bone General Dispensary, since the year 1806, once in one hundred and eighty-seven labours: in my private practice, once in one hundred and thirty-three; and at the Endeavour Society, one in fifty-nine or sixty cases; so that taking the average of the whole numbers, of about four thousand two hundred and forty-three labours, it has occurred once in one hundred and thirty-six cases. In the above numbers I have had occasion to use it twice since the end of February last.

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* By Dr. Bland. † By Dr. Merriman.

With respect to the use of the forceps or vectis, in cases of dyslochia instrumentalis, it has been asserted by Dr. Merriman, that the necessity for their application does not occur oftener than about once in three hundred and seventeen cases, which has been considered upon the average as a pretty moderate calculation; but it has happened to me, upon the average of the aforementioned three different calculations, to employ them once in every sixty or sixty-four cases.

Case II.

———— Miller, wife of James Miller, a soldier in the fifty-second, or Pompadour regiment, residing at No. 6, Weir's Passage, Charlton Street, Somers Town, about thirty years of age, and pregnant of her fourth child, was taken in labour on Friday the 17th of June. On Sunday the 19th, at one o'clock, her midwife was sent for; and on the following morning the membranes ruptured; immediately upon which, an arm presented, and became impacted in the passage as low down as the shoulder. In this situation the midwife kept her till the Wednesday following, in expectation of delivering her. Several gentlemen were applied to, among whom were Mr. Uppom of Warren Street, Fitzroy Square, and his assistant, Mr. Wardley. Every effort was used by them to return the presenting part; but finding it of no avail, Mr. Uppom made application to Mr. Brookes of Blenheim Street, who referred them to me.

The case being stated to me, I accompanied them to the house of the patient. It was then about eleven o'clock at night of the same day (the 22nd); the waters had been for some time passing off by dribblets; and on my examination per vaginam, I found the arm had been pushed back in the vagina. Every attempt which I made to reduce it, was powerfully opposed by very strong and rigid contractions of the body of the uterus; so that, finding all my endeavours fruitless, I gave her sixty drops of laudanum, with the view of taking off this spasmodic action. During the course of the night, four doses more of the same quantity each, and half an ounce in an enema, were administered. These separate doses were repeated nearly every half hour, without producing the least salutary effect. Mr. Uppom and myself now seperately tried our efforts to return the presenting part; but these essays proved ineffectual; and we left her about five in the morning on the 23d, with the intention of returning again at twelve, in the hope that some change might take place during the interval. On our return at the stated time, we found no great alteration had taken place; her mind was perfectly composed, her countenance did not shew any symptoms of debility, and the pulse was about one hundred and twenty.

The uterine action had nevertheless ceased for some time; excepting what was produced by irritation. At one o'clock p. m. I gave her ninety drops more of T. Opii; and about one hundred of sulph. æther, without producing any good effect. The stricture still continuing, the warm bath was proposed, which took up some time in being prepared; but in the mean time, I endeavoured to ascertain as accurately as I could the dimensions of the pelvis, which measured not more than two inches and three quarters from sacrum to pubes; and from one tuberosity of the ischium to the other, about two inches and a half.

It was near four o'clock before the warm bath was prepared; when she was put into it, and continued in it for about half-an-hour. On being taken out of the bath and put upon the bed, she complained of some transient pains in her side, which were supposed to arise from flatus in the bowels. The pulse sunk a good deal at the time she was taken out of the bath, but the contraction in the uterus still continued the same. I should have stated, that about one o'clock in the afternoon, previous to her being put into the bath, there being no possibility of returning it, we determined to bring the protruded arm away, *vi et armis;* which was done partly by twisting it round, fracturing the humerus in the middle. It came away at that part; and the scapula was afterwards extracted by fixing the crotchet over the processus acromion scapulæ. She now took ninety drops more of T. Opii. and one hundred of sulphuric æther. At six o'clock I easily discovered the sternum and clavicle, which, with a few ribs, were extracted with some difficulty. About seven o'clock, I fixed the crotchet in the vertebræ dorsi, having previously separated the head, with a part of the neck, and obtained possession of the back and lower extremities. These were brought away with the same difficulty. At eight o'clock I perforated the head near the mastoid process, and fixing the crotchet in that part, with the assistance of pressure being made upon the abdomen, extracted the head. An hour afterwards the placenta was brought away by Mr. Uppom with some difficulty.

Every thing went on well, until, unfortunately, puerperal fever made its appearance the second day after her delivery, and she died on Saturday evening at seven o'clock.

DISSECTION.

The abdomen being opened on Sunday evening by Mr. Wardley, there appeared diffused inflammation pervading the whole of the peritoneal coat, and the anterior part of the uterus, and the internal part was in a state of gangrene; no other viscus was examined. It would undoubtedly have been a very desirable object could this spasmodic action of the uterus have been subdued by the opiates administered, and the

use of the warm bath, &c. There can be no doubt that this patient's life had been sacrificed to the ignorance and obstinacy of the attending midwife. The same woman had, on a former and similar occasion, been discharged from a public institution for mal-practice. Had she called in some skilful person time enough to have effected the operation of turning, which is well known to every practical accoucheur, it might have been accomplished on the rupture of the membranes; and the poor woman's life have been saved.

68, *Berners Street*, 1814.

III.

Observations on Mr. Croker's case of Hydrocephalus. By Robert Bellingham, Surgeon, Uckfield, Sussex.

Medical science can in no way be more effectually promoted than by the publication of such cases, in individual practice, as appear worthy of being generally known. A store of facts, accessible to all, is thus accumulated, by which disputed points of doctrine may be settled, wavering opinions fixed, new discoveries promulgated, and mistaken theories refuted.

Authors however ought always to be, and doubtless often are, possessed of sufficient candour to receive with respect the remarks of those who happen to differ from them in opinion; for by such conduct only can truth, *the end and aim* of every lover of science, be elicited.

In vol. i. p. 378 of the Repository, a case is detailed by Mr. J. G. Croker, on which, with due deference, I will offer some comments. My object, I trust, cannot be mistaken; since my observations are directed, not so much to the practice Mr. Croker followed, as to the view of the disease on which that practice was adopted, and the reasoning which gave rise to it.

The case is offered to the medical world as one of Hydrocephalus Internus; and as it tends to the propagation of what I conceive to be an erroneous opinion, and consequently, in some instances, leading to inefficient practice, I am induced to notice it.

The sympathy so intimately and uniformly subsisting between the sensorium and the abdominal viscera, more especially with the stomach and the hepatic system, is well known to every observing practitioner; and the manner in which they are reciprocally affected under different forms of disease, has been well described by different writers, but particularly by that acute observer, Mr. Abernethy.

In the case in question it appears, that "the stomach con-

stantly ejected every thing a few moments after it was taken;" that "the fæces were sometimes of a clay colour and extremely offensive, and sometimes black," evident proofs of the vitiated state of the secretions of the liver and alimentary canal, so often consequent to injuries of the head. The inflammatory symptoms, the immediate effects of the injury, were removed by the practice of depletion so judiciously adopted: but the disordered state of the abdominal viscera appears still to have continued; and, according to the narrative, in a few days the intellects, hitherto little affected, became by a reflected operation considerably disturbed. This symptom, with the exception of a single convulsive fit, is the only one mentioned as characteristic of hydrocephalus, though others are vaguely alluded to. But in a disease, the characters of which are so generally obscure and equivocal, no one symptom can be relied on as pathognomonick. It is by the assemblage only, and succession of certain symptoms, that the nature of hydrocephalus can be determined. Nothing is here said, however, of those which are usually the most prominent; as pains of the head, somnolency, stupor, intolerance of light, strabismus, impaired vision, or blindness, dilatation of the pupils, loss of voluntary motion, &c. &c. On the supposition however of effusion having taken place within the ventricles of the brain, which I cannot believe to have occurred, the use of mercury was resolved on; and I consider it as a most fortunate circumstance for the patient, that with a view of affecting the system as speedily as possible, its use was not confined to external friction. "In four days the system was affected," and immediately "a favourable change was perceptible." What was this change? "the sickness and every other distressing symptom gradually left the patient, *and the alvine evacuations assumed a natural aspect.*"

I feel no hesitation in expressing my belief, that to the "one hundred and thirty-five grains of submuriate of mercury," acting as a stimulus to the intestinal canal, and correcting that morbid state of the hepatic system, which, as a secondary *fomes*, induced the disordered state of the sensorium, the recovery of the patient is attributable. Under this conviction, I cannot but protest against the inference of Mr. Croker, that "in this case a fair trial of the effects of mercury, in promoting absorption in the brain, was given."

In the ninth volume of the London Medical Journal, a case is published by Dr. Warren, which, although not exactly parallel to Mr. Croker's, is forcibly brought to my recollection by it. A child was treated for hydrocephalus; and, as far as I can judge from the respective histories, with stronger marks of that disease than in Mr. Croker's case. Mercury was employ-

ed, by means of friction only, until salivation was produced; the symptoms were aggravated, and the patient died. Dr. W. says, "The head was opened, and to the astonishment of the attendants, no water was discovered; but on examining the first passages, they were replete with viscid matter, and with crudities blended with an unusual quantity of bile. They were likewise in many places in a state of inflammation. The child's complaint (he goes on to observe) was a fever of the season, of the remittent kind, depending on a diseased state of the *primæ viæ*, and if these had been properly evacuated, in all probability a cure would have been easily and speedily completed. Is it at all unlikely, that, had a few doses of calomel been administered, on a presumption of the case being hydrocephalus, the patient might have recovered; and the mercurial course have obtained the credit of having cured a disease, which is most commonly irremediable? Such also, in my view of the subject, might possibly have been the issue of Mr. Croker's case, had it resembled this as closely in practice as in principle. Mercury might have been introduced by friction, and the salivary glands excited; but the disordered state of the abdominal viscera, with all the "distressing symptoms" in its train, might, probably, but for the action of the calomel, have remained unaltered.

"*Felix quem faciunt aliena pericula cautum.*"

Uckfield, July 10th, 1814.

IV.

Case of the Perforation of a Constricted Urethra by a Cutting Instrument, with Remarks on the fatal Consequences of such an Operation. By J. Williams, Surgeon to the Portsmouth and Portsea Ladies' Benevolent Society.

In the Repository, vol. i. p. 458, is inserted a case of Stricture, the treatment of which is recommended as original and beneficial; but which, in the instance I have to relate, proves decidedly destructive. Mr. Bythell says, he succeeded in removing a stricture of some extent, by means of forcing a pointed metallic instrument through the obstruction, until the resistance was subdued; and that the patient recovered. The success of this case encouraged him to describe the operation, and to recommend its adoption in similar instances. I am well aware how impracticable it is to generalize from individual cases; yet the recital of particular practical results cannot

but meet with commendation, as it conduces to further experiments, by which they may be better illustrated, and the propriety of their adoption or rejection estimated.

Success in a solitary case is scarcely sufficient to justify the adoption of the successful practice. However, I do not intend to draw from my objection an universal rule; on the contrary, the case I offer, as it is a fatal case, will surely, I trust, depress the importance of the practice recommended by Mr. Bythell, as much as his single record of benefit could exalt it.

It is not my wish to depreciate success; events must ever be the standard of practice; and I consider that it would be unfair to the gentleman whose success has been made public, to withhold from that public a parallel case, the issue of which was diametrically opposite to his own. For although I admit with Celsus, that a doubtful remedy has a claim to our attention in desperate cases; yet I must have extraordinary prospects of relief, indeed, to influence me to the use of any measure, in which there exists a possibility of its being the cause of the death of a patient, who without its application would have suffered an inconvenience only without direct danger*.

Theory is certainly the true foundation of practice; and experimental inquiry is of the utmost importance, when it is formed upon the legitimate basis of analogy. Every one knows that the incision of a part excites inflammation, and a deposition of coagulable lymph, which in a short space of time becomes organized matter. It therefore appears from theory alone, that the puncture of a diseased part would in general remain pervious but for a short time. By the exudation of lymphatic matter, its sides would very soon become consolidated; and, if in the urethra, would soon obliterate the canal. I must, therefore, agree with the Editors of the REPOSITORY, who remark on Mr. Bythell's case, that they consider it more as a lucky hit, than as a precedent for practice. Besides a fatal termination, as will appear in the recital of the following case, may render those who follow such precedents obnoxious to a verdict of "mala praxis."

CASE.

Quarter Master Franklin, of the Limerick Militia, was in possession of tolerably good health, with the exception of having a stricture in the urethra, which incapacitated him from

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* I advert only to the case I have undertaken to relate; for I cannot but admit, that strictures of the urethra sometimes occasion immediate apprehension, although they are, I believe, more frequently unaccompanied with danger.

making water, otherwise than in a very slender stream; when he placed himself under the care of a soi-disant Dr. W——, an illiterate and unauthorised practitioner of Surgery. This charlatan, for a considerable premium, engaged to remove the obstruction. There was a small discharge of mucus, not an unusual symptom of stricture, from the urinary canal. From the information I procured, he had also, some years ago, been the subject of repeated gonorrhœas; from which source he justly inferred the formation of his stricture. He had not, by his own account, had any recent sexual communication, which might have rendered the nature of the discharge equivocal. He had been I believe some weeks under this person's management, when the operation I am about to describe was determined upon as a dernier resort.

The patient was placed on a bed, with his knees elevated towards the belly, holding a candle for the convenience of the operator. A tube formed from a catheter was then passed down the urethra until its progress was resisted. A metallic bougie with a sharp point was now thrust through the canula down to the obstruction; and then by repeated efforts pushed apparently through it*.

Some hours after this operation the patient was seized with symptoms indicative of inflammation of the bladder and peritoneum. These increased in such a rapid manner, that the assistance of the medical gentlemen of the regiment, Surgeon Furlong and Assistant Surgeon Gason, was requested by the patient. Staff Surgeon Irwin and myself also visited him. I attempted to pass a catheter and bougie into the bladder, but could not move them beyond the stricture, although I believe a catheter was passed immediately after the operation. After the means likely to remove the inflammation, such as venæsection, purgatives, and other antiphlogistic remedies were used, without the least benefit, the patient died on the seventh day from the performance of the operation.

APPEARANCES ON DISSECTION.

An examination of the body took place the day after the patient's death, at which the army medical practitioners before

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* A flexible metallic bougie, armed with the cutting extremity of a trochar; and a catheter, with the perforated end cut off, were the instruments employed. These the operator displayed to us, and described the mode in which they were applied, by way of illustrating the simplicity of his practice, and exonerating himself from the imputation of producing the symptoms of disease under which the patient now laboured. This explanation was made before the patient's death, to Messrs. Furlong, Gason, and myself, the patient himself bearing testimony of its truth.

mentioned, and myself, were present. The urethra being slit open through its whole length, a stricture was observed, nearly three quarters of an inch in length, situated about three inches and a half from the exterior orifice of the canal. No perforation could be discovered in it, but at its anterior part we plainly perceived an angular puncture, which exactly corresponded with the point of a small trochar, such as is used in tapping the scrotum in hydrocele. A probe was introduced at this part, which by following the course taken by the sharp instrument, passed into an adjoining sinous cavity; and did not enter into the substance of the stricture, but glanced sideways into this sinus, which originated from that part of the urethra posterior to the obstruction*. On opening this cavity, its parietes were perceptibly lacerated and incised by the progress of the trochar. We could now comprehend how this instrument had passed through the sinus, until it came to its source at the hinder part of the stricture, when another thrust drove it into the membranous and cellular substance near the neck of the bladder. The opening into the bladder was likewise triangular; but much larger than that anterior to the stricture. The bladder was much thickened and collapsed. Its fundus displayed livid discolorations, the effect of gangrene; and in and over the surface of the internal coat were observed, lengthened flakes of pus, discoloured by blood. The prostrate gland did not exhibit peculiar marks of disease. The omentum and the peritoneum were beautifully and minutely injected with red blood, the undoubted consequence of sympathetic inflammation. The parts (consisting of the bladder and penis) were dissected off from the body, and given to me, with the wish from the gentlemen present that I would lay these facts before the public.

The preparation has been examined by most of the medical gentlemen in this neighbourhood, and will always be at hand for the inspection of others who may desire to examine it. It will remain as a monument of the impolicy of the toleration of

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* This was an effort of nature to form a new passage where the urine was obstructed; and it is curious to observe (see the plan) the form of this sinus, its breadth in the middle, and its converging to a point at the outer end of the stricture. From these circumstances it appears possible, that the urine might have burst through the thin membrane, which separated this sinus from the urethra; and thus have wrought a cure. I think a small opening must have already existed, although it was not discriminated from the incision made at the beginning of the stricture by the trochar.

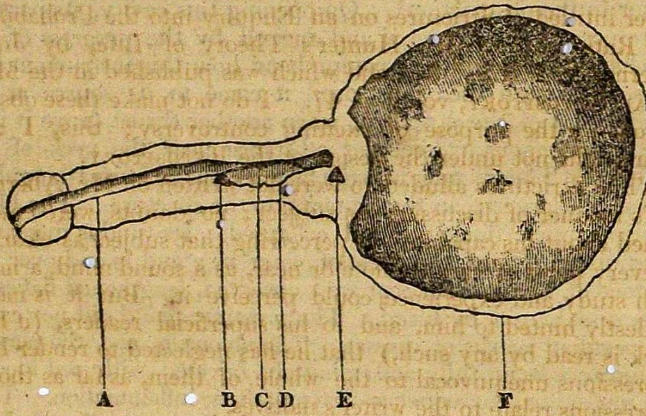
empiricism, and as a record of the dangerous consequence of misplaced confidence.

"Fide sed cui vide."

A coroner's inquest was subsequently instituted to inquire into the cause of Mr. Franklin's death, when, from the depositions of the medical gentlemen of the army, and my own, the jury found the following verdict:—

"Died in consequence of an unskilful operation."

Plan of the fatal injury done to the urethra and bladder by an attempt to pass a pointed stillette through a stricture.



A. Urethra laid open in its healthy part.

B. Angular puncture at the beginning of the stricture, through which the stillette entered the fistulous sinus, D.

C. Stricture three-fourths of an inch long, with the urethra beyond the stricture, where it enters the bladder.

D. Fistulous sinus, by the side of the stricture.

E. Angular opening made by the stillette, through which it passed, by the cervix into the cavity of the bladder.

F. Bladder in a highly diseased state, its coats extremely thickened, and its interior part studded with patches of coloured pus, to shew which, a part of its parietes is removed, reserving that portion only at the cervix through which the stillette was pushed.

V.

Observations on a Paper intitled "Strictures on Mr. Aberne-thy's *Enquiry into the Probability and Rationality of Mr.* Hunter's *Theory of Life."* By a Surgeon*.

> " Non tali auxilio nec defensoribus istis
> " Tempus hoc eget." Virgil.

Connected as the name of Mr. Abernethy is with science, ardent as he is in his practical pursuits, and rational, acute, and judicious in his theoretical views—none will wonder, I am persuaded, at an attempt to mark some mistakes of the writer of a paper intitled " Strictures on an Enquiry into the Probability and Rationality of Mr. Hunter's Theory of Life, by John Abernethy, F.R.S.," &c. and which was published in the Medical Repository, vol. ii. p. 47. I do not make these observations for the purpose of exciting controversy; this, I am aware, falls not under the design of the Repository.

The Strictures alluded to were not written on Mr. Abernethy's manner of discussing his subject; no doubts were entertained about his capability of perceiving that subject as clearly, in every point of view, remote or near, as a sound mind, armed with study and experience, could perceive it. But it is most modestly hinted to him, and to his superficial readers, (if his work is read by any such,) that he has neglected to render his expressions unequivocal to the whole of them, as far as those expressions relate to the writer's motives.

I shall endeavour to shew, that Mr. Abernethy is, in the parts of his Enquiry quoted by the writer of the Strictures, neither negligent nor inaccurate; and that his meaning must be apparent to any mind's eye of commonly sound organization.

To say that a writer's motives are good, but that he cannot, or does not from negligence, express his meaning clearly enough to all individuals possessed of common comprehension,

* It is contrary to the plan of our work to occupy our pages with metaphysical disquisitions, and therefore we omit printing several papers which have been sent to us on this subject: but as the Strictures, to which this article is an answer, were published in the Repository, we cannot, in justice, refuse it a place. In doing so, however, we would desire it to be understood that we take no part in the discussion. We have already given our opinion of Mr. Abernethy's arguments in our review of his Enquiry, and for that alone do we hold ourselves to be responsible.—Editors.

so as to do justice to his motives, is certainly saying nothing in his favour as a man of talent, or at least of efficient talent. This writer expressly says, throughout his Strictures, that Mr. Abernethy has, to the bulk of his readers, left his text to represent a meaning, which meaning he (the writer of the Strictures) is certain Mr. Abernethy does not hold. Now to me it appears perfectly clear, that the learned lecturer has exactly expressed what he appears to have meant; and most certainly could not well have meant what he did not express.—But to proceed to my observations :—

The writer of the Strictures says, "he fears young men may be led astray into error by the obscurity of certain sentences in the Enquiry. Thus in page 46, we find attributed to all living beings 'the power of converting other kinds of matter into that appropriate to the individual it is to form and support.' The phrase, 'other kinds of matter,' is assuredly too loose to be likely to lead those inexperienced students who have yet their principles to form, to imagine that their able instructor meant to represent, that body, which, 'made in the image of God, and into which was breathed a living soul,' to be merely one modification of matter, and nothing beyond it; an opinion, which I am persuaded, is by no means held by the writer, but to which I apprehend he should not have offered even the apparent sanction of his high authority." Now really this writer does not, to me at least, appear to understand what he so very boldly censures; and, possibly, the remarks I am about to offer, may convince him, that though *he has not comprehended* Mr. Abernethy, he is wrong in supposing that the bulk of that gentleman's readers do not comprehend him. He says, that Mr. A., whom he calls an able teacher, high authority, &c. expresses to his readers what the author of the Strictures is *persuaded he does not mean,* thus making out an error in Mr. A.'s manner of expression, as well as supposing want of comprehension in the majority of his readers. The writer too, out of charity, as he asserts, is willing to think, that Mr. Abernethy could not mean what he says exactly; and evidently seems to think *himself* among the wise minority of readers, who can perceive Mr. A.'s real meaning, although his language does not express it.

Does the writer, when he says "*inexperienced students who* have yet their principles to form," mean their moral, and religious, or their scientific principles? I cannot, I must confess, conceive what he means.

The Censor "quotes Scripture to his purpose," which is unfair in philosophical discussion. The Scriptures, we are led to believe, were given as a guide to duty, and not as books of scientific reference.

It does not seem to have occured to the writer whom I

oppose in this instance, that Mr. Abernethy does not speak of what is called the soul, which metaphysicians have talked and disputed about for ages, chasing each other in a circle, round and round, with all kinds and degrees of labour and velocity. He does not speak of the *ens*, the *soul*, the *mind*, the *immortal part*, but of the thing called vital principle, by naturalists; a thing hitherto known by its effects, although not tangible as it exists conjoined with organization; the vital spirit, a thing which makes by its presence organization efficient, existing throughout living nature. Now what this is we evidently do not know; what, from its effects on organised matter, it most resembles, we have been anxious to see determined. "That it appears to have been superadded to organization by the Creator of living beings; that it resembles a fluid experimented upon by us called the galvanic fluid; that it is the grand moving intangible *organum* of living bodies; which when we contemplate in its effects, we admire even more than the stupendous fabrics which it inhabits;" is yet the *ultima thule* of all our lucubrations respecting this principle.

We have not seen, we cannot conceive the reproduction of organized bodies, nor of this vital principle, unconjoined with each other. They both, when conjoined, reproduce themselves —they modify matter, inanimate matter—and they are variously modified by reaction on themselves.

Mr. Abernethy was discussing a physical, a material subject, concerning animal life, not concerning the nature of the soul, or of the mind, a subject on which little or no light has been thrown. He is of opinion that vitality does not depend upon organization, and I confess that I agree with him in this opinion. It is plain that on organized nature, at the first, there must have been conferred a principle which should render it efficient, capable of reproducing itself, and of continuing itself along with organization as long as was essential to the plan of creation.

Again, says the Censor—"Students might think that their able instructor meant to represent that body which was 'made in the image of God, and into which there was breathed a living soul,' to be merely one modification of matter, and nothing beyond it, an opinion which I am persuaded is by no means held by the writer, &c."

I request the reader to observe well this sentence.—It is true that students might indeed think Mr. Abernethy meant that the body was a modification of matter; but who could think that he meant that the body *and* the living soul which was breathed into it, (supposing that the text quoted from Scripture to mean, *soul*,) taken collectively, was only a modification of matter *and nothing beyond it?*

The writer of the Strictures ought to consider, that the text from Scripture which he has just quoted, concerning the soul, *may* not mean the intellectual principle, the immaterial *ens*, that which constitutes our sovereignty in creation, our claim to immortality, but merely the principle of animation, "a living soul," an active vital principle. If the text mean this, or if its meaning admit of any dispute, then its quotation, in opposition even to the possible alleged meaning of Mr. Abernethy, is unfortunate.

"The professed basis of the work," the writer says, in the very commencement of his Strictures, "is to shew" 'that life does not depend upon organization,' "an opinion which it appears Mr. Hunter held as well the author of the 'Enquiry;' but which, with great submission, I should have supposed hardly required the sanction of two such respectable authorities." If then the thing be so self evident, why is the Censor at the trouble of writing pages to prevent the many, from conceiving a meaning to lurk in Mr. A.'s work—when, alas! that writer's real meaning is known but to the gifted few? But the fact is, to many enlightened philosophers it was not, nor is it at all so self-evident that vitality does not depend on organization. Unfortunately, on things, the effects of which are complicated, and particularly where there is a union of actions from living and dead matter, or matter, if I may use the expression, in a nascent state, we can hardly reason in any other way but negatively; and, although I am of opinion that life does not depend on organization, yet I can see reasons why others might have been of a different opinion.

It has been questioned, whether gravity is an inherent quality of matter itself, or something superadded to it. In like manner it might have been questioned, whether vitality be an inherent quality of organized matter, modified in a certain manner, or a thing superadded to it when organized, to regulate its existence and continue its reproduction.—Although the Censor thinks the point self-evident, he dreads that such a man should countenance, or appear to do so, a reverse opinion, which might remain in the minds of common men innoxious to others. Now, if Mr. A.'s opinion, "that life does not depend on organization," be the most rational and self-evident one, how should he dread its taking hold of common minds in preference to the other?

"Whoever," says Mr. Abernethy, quoted by the Censor, "duly reflects on the extent of human knowledge and power, cannot but feel an interest in anatomical enquiries, since he must perceive, that it is by means of the organization of the body the mind acquires all its information, and executes all its purposes." "Now," says your correspondent again, (page 15,)

the writer says with still less caution, "when we analyse the body, we find, that every organ and every portion of it is composed of a few and simple vessels, and a few and simple fibres, and by these it is originally formed, kept in constant repair, endowed with sensation, animation, and motion." I ask the reader if the exposition of a most important physiological fact has been, in his opinion, ever made in a more clear, concise, satisfactory manner*?

Why then use caution where none is required? If Mr. A. states facts in lucid and correct phraseology, how happens it that he is called incautious? He was cautious to express himself clearly, and this he has done.

Does he not expressly say, "that by these," (the vessels and fibres) "the part is originally, &c." i. e. through their means; well knowing, that though he did not superadd the words "whilst these parts are alive," his readers would attach them as essential to the sense, thus leaving it perfectly clear, that he did not consider organization as the operative, but the instrumental cause of life.

The writer, (vol. ii. p. 49, of the Repository), quoting the notion of Mr. Hunter, as given by Mr. Abernethy, says, "we are reminded," (page 48 of the "Enquiry,") of Mr. Hunter's notion of a great chain of being, which 'seems to connect even man with the common matter of the universe,' by which phraseology, the essential distinction between man and matter is softened down."

Mr. Hunter does not soften down the essential difference between man and matter; he only seems to soften down the difference between man as living matter and dead matter itself; or in other words, though he has said, "man is the common matter of the universe," his idea is equally well illustrated by saying, 'that connects animated matter with dead matter.' In fine, Mr. Hunter meant, that this chain was the power which man had in common with the brutes, of converting dead matter into a part of himself. He still left the essential difference between man and matter untouched. "Mind is mind, and matter is matter still," says the Censor, "notwithstanding learned lucubrations". So it is; and Mr. Hunter did not insinuate, that mind was matter, nor vice-versa. Mind is mind certainly; and when we speak of man as an immortal rational being—in contradistinction to man as a digesting animal—it is because he and he alone is possessed of mind; but that mind is not the cause of his digesting what he eats and assimilating it.

* My prolixity will be forgiven, if I do any thing towards preventing people from writing matter, when they set themselves up as the champions of mind.

I shall quote no more of the Strictures, verbatim. After

talking about demoralizing metaphysics and politics, &c. The writer speaks of error being excluded from the chairs of professors, &c. What calls he error? Were I to ask all the theorists that have ever theorized, all the sectaries who have ever opposed each other, what error is; the answer in the affirmative would pinch them hard. They might say what it is not.—It is not truth, they might answer. If I said, where lies it? they would answer—*not with us.*

It is passing strange, that any man, young or old, knowing that knowledge is attainable only by collecting facts, by experiment, and observation; who reluctantly launches into the dark ocean of hypothesis, and is anxious to preserve the temple of philosophy clean from the cobwebs of ephemeral theory, and the prolific vermin of dogma; should be at once set down as a materialist, an enemy to real religion. This, all this, in the present age, is passing strange. That it should be so, "is a paradox; but the time gives it proof." I wish all defenders of favourite opinions would act as Othello wished—

"Nothing extenuate, nor set down aught in malice."

Why is the Censor, whose opinions I have been opposing in these pages, so much more afraid, that religion *may* be hurt in this age by the discoveries or the opinions of the most excellent and enlightened men, merely because they seem to the vulgar not to accord with certain texts of Scripture, about which the greatest men have found themselves unfit to dispute? It is more rational to lament, that Science has been obscured in her lustre, and retarded in her progress, by groundless surmises, prevailing in many ages, that her discoveries tended to invalidate passages of Scripture—surmises which once spread their contagious mists over the astronomical world; checked the growth of medicine; and brought the hoary-headed and venerable sons of wisdom on their knees, to recant the most sublime opinions on the structure of the universe.

Was it designed that religion should jar with philosophy? Was it not intended by the Architect of the moral and physical world, that their harmony should be a means of happiness? A love of wisdom, a wish to know, was also given to man in the great plan of creation. Philosophy does not impede the progress of religion. Indeed genuine inductive philosophy never did, never can injure religion. The way to error lies not through the portals of science, when the *novum organum* is the guide; then why should the smallest ray of truth be intercepted, because it *may* make a false impression on an eye darkened by ignorance, or tinged with the morbid hue of prejudice?

The motives of the writer of the Strictures may be excel

lent. I believe they are so. I accuse not his motives; but I have attempted to expose his fallacy: how far I have succeeded, it is not for me to determine. He thinks, that religion may be injured by misconception of language, leading to materialism; but he has really done nothing in his Strictures to prevent this. He has not elucidated a single point; he has not defended Science; she was not attacked: in fact, he has stood forward the voluntary defender of religion against an assumed danger; the mere incubus of his own imagination.

No partiality to Mr. Abernethy has induced me to make observations on the Strictures upon his "Enquiry." I never saw Mr. Abernethy in my life. I dislike controversy, nor shall I trouble you with this subject again on *any account*. The least discovery, the smallest original composition on any part of science, is worth many pages of disquisition; but the writer of the Strictures, it is supposed, will not be highly offended at, what his puerile fears have produced, observations written by one not deeply read in the schools, but anxious to defend *perfect freedom of thought*—one who begs pardon of Mr. Abernethy for speaking on a subject so ably handled by him, so little capable of elucidation by me, or of injury from the writer of the Strictures.

London, August 4th, 1814.

VI.

On the Preparation of the Unguentum Hydrargyri. By Amicus.

The paper communicated by Mr. Higginbottom in the Repository for July (vol. ii. p. 53.), respecting the preparation of the Unguentum Hydrargyri, induces me to offer a few observations on that subject. But before I proceed, I would disclaim any intention of detracting from the merit due to your correspondent for his communication.

I have long been in the practice of directing this ointment to be prepared in the manner that gentleman has described, and have experienced a similar result—that of expediting the combination of the quicksilver with the lard. Yet having discovered another mode of effecting this with equal expedition, I am inclined to believe that the rationale of both methods is the same. A brief statement of my method may not be unacceptable to your readers.

A small portion of lard, highly rancid, being rubbed with the mercury, a speedy union takes place; and when the globules have wholly disappeared, the proper quantity of good

fresh lard is added. The ointment thus prepared is divested of any smell or appearance indicating rancidity.

In the operation usually employed, during the union of the mercury with the fresh lard, the mass becomes oxydized; and this is effected by the continued trituration, and exposing a large surface to the action of the air. Now, by adding the prepared ointment already oxydized, it must necessarily accelerate the oxydizement of the mercury, and consequently the combination of the two substances.

The same reasoning may be applied to explain the method I employ. The rancidity of lard is certainly the effect of the absorption of oxygen and the production of sebacic acid: hence in this state it the more readily promotes the oxydizement of the metals, and the union of the oxide with the fresh lard.

It is useless to dilate on a circumstance which experience will establish as a fact.

Melksham, Wilts, Aug. 10, 1814.

VII.

Observations on a Novel Effect of Vaccination. By a Member of the Royal College of Surgeons.

THE reports we daily receive of the beneficial influence of vaccination on the health, and security from variolous infection, of the inhabitants of the greater part of the globe*, and the progress it is again making in this kingdom, must prove highly satisfactory to the philanthropist, and to those who know how to estimate the true resources of their country.

It is not, however, as a preventive of small-pox only that we have reason to hail the introduction of vaccination; for there are good grounds for believing that it has the power of diminishing the violence of other diseases. That this is not a vague opinion, the results of my own experience lead me to judge; for, in some instances, I have seen the vaccine inoculation conduce to the re-establishment of health, when medicine had been vainly administered. Among others, the following case occurred to me a few months since.

A young female, about sixteen years of age, of a cachectic habit, had long laboured under dyspepsia, combined with acute pain in the bowels, and diarrhœa, at the return of the stated periods of menstruation. She used a variety of reme-

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* See *Repository*, vol. ii. p. 31.

dies, which procured temporary relief: but her complaints regularly recurred. She had never had the small-pox; and I persuaded her to submit to the introduction of the vaccine virus. The disease went accurately through its stages, and considerable affection of the constitution was visible. When the scab had formed on the arm, and the general symptoms subsided, all her former complaints were found to have vanished. The catamenia have since been perfectly regular, and not the slightest indisposition has been apparent. Her appetite is good, and she has become lusty and florid*.

Although impressed with the conviction that the complaints of this girl had been removed by her passing through the vaccine fever, yet I might not have been induced to offer my ideas on the subject if other evidence had not appeared to confirm my opinions. Vaccination is still but in its infancy; and when the prejudices, which have been so unaccountably raised and propagated, to the disgrace of this country, which justly has the merit of the discovery, are dispersed, I trust there will be as much industry exerted, in recording the various advantages mankind experiences from its influence, as there has been of malevolence and ignorance exerted to depreciate the value of the blessings it has conferred.

Salisbury, July 22, 1814.

VIII.

A Reply to a Letter on the Treatment of Fever by Blood-letting, addressed by the four permanent Physicians to the Committee of the Fever Hospital, Cork Street, Dublin. With a Letter to the Editors.

As friends of science, I am persuaded you will immediately insert in your valuable REPOSITORY my Reply to a Letter on the treatment of fever by blood-letting, which, I am informed, appeared in the last Number of the Edinburgh Journal.

I have the honour to remain, &c. THOMAS MILLS†.

41, *Dominick Street, Dublin, July 30, 1814.*

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* In such a habit of body and state of health, it is very probable that the eruptive fever of vaccination, by inducing a new action in the system, might effectually remove former obstinate diseases. In chronic complaints the introduction of so mild a virus as the vaccine, may prove a powerful remedy. It is a theory as antient as Hippocrates; one of whose precepts was—"*Utrum morbos antiquos primum recentes facere oportet.*"—EDITORS.

† In complying with Dr. Mills' request, we avoid giving any opinion whatsoever on the subject at issue. In our review of Dr.

A REPLY, &c.

"A LETTER has been published on the treatment of Fever by blood-letting, signed by Drs. Barker, Stoker, Hagan, and Gamble.

"The object of this Letter may be considered as two-fold:

"1st. To shew the inaccuracy of statements, contained in a work of mine, intitled, "An Essay on the Utility of Blood-letting in Fever."—2dly. On such inaccuracy to condemn the practice.

"As the Authors of the Letter have made no trial of this remedy, as they have not watched its effects*, nor examined the appearances of the blood or the appearances on dissection, they have had recourse to the diet-tables of the Hospital. They say, 'the data on which they depend have been furnished from the most authentic sources, namely, the diet-tables.' (*See Letter*, p. 9.) From these a table has been made out, which is calculated to promote a belief, that the sedative plan of treatment was less successful than the usual routine of practice. Two questions now arise;

"Are these documents perfect?

"Are the statements made from them correct?

"If the documents be perfect and the statements correct, I shall confess that, in some of my calculations, I have erred; but, if it now be proved that the tables are imperfect, and that the statements thence made are incorrect, I hope the four Authors of the Letter will have the candour to acknowledge that their censure of the practice was not the result of observation or experiment, but of a hasty miscalculation.

"The Table begins thus:

"1810.	*Dr. Mills's Patients.*		DIED.	
	Males.	Females.	Males.	Females.
"From July 14th to 28th - - - -	22	38	9	3
"Counter-statement - - - - - -	18	49	4	2

Mills' publication, we fenced our approbation of his practice by observing, that, if his premises were correct, we were bound to admit the conclusions deduced from them. The accuracy of these premises, however, has been questioned, and the statement of the supposed errors laid before the public, through the medium of a contemporary Journal: we therefore conceive we are but doing an act of justice to Dr. Mills, and affording the profession an opportunity of pronouncing a fair verdict on a very important point of practice, by reprinting that part of the Reply, which is contained in our pages. We have not printed the *Appendix*, as it is a mere catalogue of names and dates referred to in the Reply; but we have carefully compared them with the statements in the Reply, and can vouch for their accuracy.—EDITORS.

"* Has Dr. Stoker seen a single instance of the practice? I prevailed on Drs. Gamble, Hagan, and Barker to look at a few cases; may I beg leave to ask these Gentlemen if they saw the same case a second time, and whether a variety of patients ought not to be visited, and visited oftener than once, in order to form a just estimate of the merits of a remedy?

" Here are four errors:

" 1. The addition of 4 male patients.	*Dates and Names in the Appendix.*
" 2. The omission of 11 female do.	
" 3. The addition of 5 male deaths.	
" 4. Do. of 1 female do.	

" The Authors of the Letter begin their Table, 14th July, 1810, yet they include the deaths which occurred among my patients from the 7th to the 14th, while they take no notice of the recoveries that took place during that period; was this correct or ingenuous?

" Of the six patients that died, but one was blooded, William Richards, and he died of schirrous liver, long after fever had subsided.

" The errors now pointed out are of different kinds; some of them will be considered, perhaps, rather strange, on the part of Gentlemen, who have come forward as the unwilling detectors of error and mis-representation. (*See Letter*, p. 11.)

" 1810. *Table continued.*	Males.	Females.	DIED. Males.	DIED. Females.
" From July 28th to Aug. 25th -	32	26	3	3
" Counter-statement - - - - - -	30	52	3	2

" Here are three errors:

" 1. The addition of 2 males.	*Dates and Names in the Appendix.*
" 2. The omission of 26 females.	
" 3. The addition of 1 death.	

" Of the five patients that died, three laboured under fever, and one only, Patrick M'Donnell, was blooded*.

" Nancy Crosby, entered in my diet-table as dead, I never saw; it is supposed by Mr. Price and the Register, that she died before the hour of visiting—this woman cannot, therefore, be considered as a patient treated by blood-letting.

" 1810. *Table continued.*	Males.	Females.	DIED. Males.	DIED. Females.
" From Aug. 28th to Sept. 29 - -	15	56	0	3
" Counter-statement - - - - - -	5	32	0	3

" Here are two errors:

" 1. The addition of 10 males.	*Dates and Names in the Appendix.*
" 2. Do. of 24 females.	

" Of the three that died, two had fever, and one was blooded, named Cath. Toole.

" * In my Essay on Fever, I only calculate the patients I blooded. Those who were not blooded, though ever so numerous, cannot make for or against the practice; at this particular period, I was not merely cautious, but fearful of the effects of blood-letting, as the practice was novel, and on the success of it my character was committed.

" 1810.	*Table continued.*		DIED.	
	Males.	Females.	Males.	Females.
" From Sept. 29th to Oct. 20th -	4	6	0	0
" Counter-statement - - - - - - -	0	2	0	0

" Here are two errors:

" 1. The addition of 4 males.

" 2. Do. of 4 females.

" The two female patients under my care were Nurse Saxton and Nurse Conolly.

" 1811.	*Table continued.*		DIED.	
	Males.	Females.	Males.	Females.
" From Jan. 1st to 15th - - - -	22	0	4	0
" Counter-statement - - - - - - -	30	0	2	0

" Here are two errors:

" 1. The omission of 8 patients. } *Names and Dates in the*
" 2. The addition of 2 deaths. } *Appendix.*

" John Powell was marked dead in the diet-table, the 1st Jan. some hours before I commenced my attendance.

" Luke Savage is marked dead in the diet table, the 15th Jan. the day after I discontinued my attendance; he probably came in on that day or the evening before—his name is not in my journal.

" Was it fair in the authors of the Letter to reckon these two among my patients?

" The two patients that died under my care were G. Carey and — Murray, and neither was blooded; yet the Table might lead the reader to suppose, that *all* my patients were blooded; and this too in direct opposition to the statement in the Letter, p. 7, which says, that this mode of treatment was practised only with a large majority of my patients.

" 1812.	*Table continued.*		DIED.	
	Males.	Females.	Males.	Females.
" From May 15th to 30th - - -	9	0	2	0
" Counter-statement - - - - - - -	15	1	1	0

" Here are three errors:

" 1. The omission of 6 males. }
" 2. Do. of 1 female. } *Appendix referred to.*
" 3. The addition of 1 death. }

" The additional death was that of Joseph Synge; he was not placed under my care; and opposite his name in the diet-table may be seen, in my hand-writing, 'not visited by Dr. M.' With this remark before the four authors of the Letter, this man is not only set down as a patient of mine, but is so set down, that it might be inferred he was treated by blood-letting. And the authors of the Letter have come forward as impartial medical inquirers—men anxious to investigate the merits of blood-letting.

" 1812.	*Table continued.*		DIED.	
	Males.	Females.	Males.	Females.
" From May 30th to June 27th.	25	0	1	0
" Counter-statement - - - - - - -	68	13	2	0

" *Note.*—Independently of the omissions which I now or hereafter may notice in the diet-tables, there were several patients treated by me at different periods, in consequence of the absence of one or more of my colleagues. Thus, in 1810, from the 8th to the 14th of August, forty-two of Dr. Barker's patients came under my care.

" Here are two errors of great magnitude:

" 1. The omission of 43 males. " 2. Do. of 13 females.	*Appendix referred to.*

" But there is a third error, and one of a most unusual kind, viz.—the omission of the death of a patient, named J. Raper, who died apoplectic 19th June, in the convalescent wing. This omission and the omission of so many of my patients, may be ascribed to the loss of part of a diet-table, including patients, from the 30th May to 18th June. This chasm I have filled up from my journal.

" The authors of the Letter have stated that 'the data on which they depend have been furnished from the most authentic sources, namely, the diet tables*.'

" They have likewise stated, that *all* the patients treated by Dr. M. are given in the table, yet here we find 56 omitted.—(*See Letter*, p. 7.)

" 1812. *Table continued.*	Males.	Females.	DIED. Males.	DIED. Females.
" From June 27th to July 25th -	70	0	3	0
" Counter Statement - - - - - - - -	84	11	2	0

" Here are three errors:

" 1. The omission of 14 males. " 2. Do. of 11 females. " 3. One additional death.	*Appendix referred to.*

" J. Dowling, marked dead in the diet-table, 6th July, was not a patient of mine—it is supposed he died before the visiting hour.

" During the above period, 95 patients were placed under my care—two died. This makes the deaths to the recoveries not one in 47; yet it has been stated by the authors of the Letter, that at no period did I lose so small a proportion as a twenty-fifth.—(*See Letter*, p. 10.)

" * Were the diet-tables neither defaced nor imperfect, can they be regarded as medical records, furnishing the data necessary for investigating the merits of any mode of treatment? The same diet-tables and the same set of patients, from change of wards and change of duty, and from the occasional absence or indisposition of the attending physician, have come under the care of two or more of his colleagues. On three different occasions I had reason to complain of an ungracious interference with my practice. I was removed from my wards without notification or apology, and thus the management of patients was taken out of my hands, with whom a plan had been pursued, in the success of which, for obvious reasons, I was deeply interested."

" 1812.	*Table continued.*		DIED.	
	Males.	Females.	Males.	Females.
" From July 25 to August 29 - -	70	31	5	0
" Counter Statement - - - - - - -	58	38	5	0

" Here are three errors:

" 1. The addition of 12 males.
" 2. The omission of 7 females.
" 3. One additional death.
} *Appendix referred to.*

" August 5.—John Dunn, one of the five persons that died, is marked thus in the diet-table: 'died apparently of hydrocephalus internus the day after admission'—no remedy was taken.

" August 21.—Martin Bryan is marked thus: 'not seen by Dr. M.'

" No notice has been taken of these remarks by the authors of the table.

" 1812.	*Table continued.*		DIED.	
	Males.	Females.	Males.	Females.
" From August 29 to Sept. 26. - -	24	19	2	2
" Counter Statement - - - - - - - -	12	33	2	2

" Here are two errors:

" 1. The addition of 12 males.
" 2. The omission of 14 females.
} *Appendix referred to.*

" T. Laurence, one of the patients that died, was not blooded—he took no medicine.

" A part of a diet-table is here lost, containing the names of patients from the 2d to the 23d September. It has been stated by the authors of the Letter, that 'the data on which they depend have been furnished from the most authentic sources, namely, the diet-tables.'—*(See Letter.)*

" 1812.	*Table continued.*		DIED.	
	Males.	Females.	Males.	Females.
" From Sept. 26 to Oct. 31 - - -	58	21	3	2
" Counter Statement - - - - - - - -	112	15	2	2

" Here are three errors, the first of which is of great magnitude:

" 1. The omission of 54 males.
" 2. The addition of 6 females.
" 3. One additional death.
} *Appendix referred to.*

" Anne Doherty died between the 8th and 16th of October; although I was absent from the hospital during this period, yet I have included her among those who died under my care.

" W. Barry, Sept. 26, is marked thus in the diet-table: 'died a few hours after admission of mortification in the leg.'

" In page 7 of the Letter it is asserted, that *all* the patients treated by Dr. M. are given in the table; here, however, we find an omission of no less a number than 48.

" 1812.	*Table continued.*		DIED.	
	Males.	Females.	Males.	Females.
" From Oct. 31 to Nov. 28 - - -	83	0	5	0
" Counter Statement - - - - - - -	76	0	4	0

" Here are two errors:

" 1. The addition of 7 males.
" 2. An additional death. } *Appendix referred to.*

" Of the four patients that died, two were blooded—one of the four is entered in my journal as 'the dying apoplectic yellow fever patient.' I have reckoned him as a patient, but as he was not blooded he cannot be included among those treated by blood-letting.

" Roger O'Brien is marked in the diet-table as dead the 28th November—the statement only goes to this date, and this death I include in the following period.

" 1812. *Table continued.*	Males.	Females.	DIED. Males.	DIED. Females.
" From Nov. 28 to Dec. 31 - - -	78	0	4	0
" Counter-statement - - - - - - -	88	1	4	0

" Here are two errors:

" 1. The omission of 10 males.
" 2. Do. 1 female. } *Appendix referred to.*

" Of the four that died, two were blooded. The diet-table from the 12th to the 31st December is lost.

" From such defective documents as these diet-tables, the four gentlemen undertake to decry the practice of blood-letting in fever, and that in the face of a statement which they do not attempt to contradict, by which it appears that in 1810 blood-letting was employed in 209 patients, and in 1812 in 504; that during the first of these periods the deaths were to the recoveries in the proportion of 1 to 23, and during the second as 1 to 28 only. Suppose, however, these documents perfect, they could only prove that a certain number of my patients died who were not blooded; but, from this concession, no inference could be drawn unfavorable to the practice of bleeding in fever.

" The authors of the Letter admit that the recovery of my patients was more rapid than that of others, but are unwilling to allow that it was owing to the mode of treatment; they say " most probably it arose from Dr. M. having under his care a much larger proportion of *male* patients than the other physicians." Here probability is opposed to fact, and a fact of their own stating, that fever is more violent in males than in females; now is not recovery slow in proportion to the violence of the attack? And does it not hence follow that the more speedy recovery of my patients, was owing to the practice adopted? Here I may be allowed to remark, that had the majority of the patients whom I bled been females instead of males, it is fair to presume that still fewer cases would have terminated fatally.

" In page 9 of the Letter, we find the following passage: " it does not appear from any other inquiry, that Dr. Mills' patients were less liable to relapse than others, and in many instances they were observed to remain in the hospital in such states of debility, as are usually consequent to the repeated detractions of blood." This assertion is unsupported by fact, and appears to be a contradiction of a previous statement in the Letter, that my patients remained a

shorter time in the hospital than those of the other physicians, which necessarily goes to shew that the strength of my patients was preserved by the practice; some instances, indeed, of lingering convalescence might have occurred among those who recovered in consequence of bleeding, and who had laboured under symptoms, which, treated after the usual manner, would have proved fatal.

"From the above remark as to the tardy recovery of my patients, we are led to suppose that the authors of the Letter had not only watched the immediate effects of the remedy, but had traced it to its remote consequences; whereas, I am sorry to say, this was far from being the case. In my work on fever no attack was made or intended to be made on any of my colleagues—I never presumed to censure them for not approving of the practice which I had adopted, but I shall always lament, for the sake of humanity and science, that they did not attentively examine its effects; effects, which I have invited both them and the faculty to witness.—Would I have ventured to do this had my practice been unsuccessful? would the patients have called for a repetition of the remedy if it had not afforded relief, or would the nurse-tenders have been blooded at their own desire, without the advice of a physician? But, above all, can it be supposed that the watchful guardians of the Institution would have allowed the continuance of a mode of treatment, novel, condemned by whisper, not adopted by any of my colleagues, if it had not proved beneficial? and it will not be said, that the committee were ignorant of its effects, or of any of the transactions of the hospital—this valuable and intelligent body of men had not recourse to defective diet-tables; they satisfied their minds of the safety and utility of the practice from sources far more authentic."

PART II.

ANALYTICAL REVIEW.

I.

Traité du Croup. Par F. J. Double. Paris. 8vo. pp. 520.

In the first number of our Journal*, it was mentioned that the French government had offered a premium for the best Essay on Croup. The volume before us was noticed by the commissioners appointed to examine the productions of the

* See *Repository*, vol. i. p. 44.

numerous candidates, as a work of considerable merit; and, although it did not obtain the prize, yet we conceive it to be of sufficient importance to lay an analysis of its contents before our readers.

Croup is a disease which must have existed long before it was considered to be a malady distinct from angina. This may account for the silence of early writers, as to the means of discriminating it from the inflammatory, or the gangrenous sore throat. Many of the fatal cases of the former, mentioned by them, were, probably, affections of the trachea and upper part of the glottis; and whoever will take the trouble of referring to the ancients, and of looking through the writings of physicians up to the middle of the last century, will not be inclined to doubt this assertion. Isolated facts indeed existed; and practitioners had obtained a glimpse of the truth: but it was an honour reserved for the late Dr. Home, of Edinburgh, to ascertain the real nature of this disease. In the year 1765 he published the first distinct essay on Croup. A fact once promulgated is soon supported by collateral evidence, and the results of subsequent experience are rapidly made public. We have had, therefore, abundance of dissertations on Croup, since that time, in various parts of Europe and America.

M. Double begins his work with a preliminary discourse, to shew the importance of making correct distinctions between the various states of one and the same disease in different individuals, and at different periods of time. In this he has our hearty concurrence, for we think that much of the diversity of opinion, too often found to exist in the minds of men equally advanced in science and practical knowledge, may be traced to this source; and this camelion-like cause of manifold error, is the more to be regretted, because, to a certain degree, all may be right—all may have collected facts and drawn inferences from the purest fountain of instruction, the evidence of their senses.

" In discussing," says M. Double, " the nature of Croup, with the best chance of success, it may be useful to ascertain—

" 1. The origin and the frequency of the disease, by looking to the description of it as handed down to us by the ancients, or early writers; if there be any disease noticed by them with symptoms characteristic of croup; whether it has become more frequent in our own country, and in what degree it actually exists?

" 2. Its particular and distinguishing characteristics? What differences exist between croup, catarrh, and the different species of angina; whether individuals at any period of life are exempt from it, and what is the particular age at which they are most commonly attacked?

" 3. The occasional exciting causes. Whether there be any known causes, which combine to spread the disease more generally

in one country than in another: with what prevalent disorders it is most frequently found to co-exist: whether it be epidemic or contagious: or, whether it be the sequel of another malady, and particularly, of any eruptive complaint? Whether there can be traced any connection with the frequent occurrence of croup and the epidemical state of the atmosphere producing measles, scarlatina, and pertussis?

"4. The comparative mortality in cases of Cynanche Trachealis.

"5. What is the composition of the concretion forming the false membrane, which is found after death, and sometimes expectorated during the progress of the complaint? Whether any artificial action can be excited in living animals capable of producing a similar membrane; and if so, what phenomena occur during its formation? In what state the mucous membrane of the trachea and bronchiæ is found under the concretion? How far the change of structure extends into the air passages of the lungs in this disease; and whether this change of structure *constituting* the disease, can be distinguished from the morbid alterations of the lungs, which are the *effects* of it, or the consequences of the cessation of vitality?

"6. The most proper mode of proceeding in this disease. Whether any plan of treatment can be distinctly pointed out as peculiarly suitable to the relief and cure of it; without taking into consideration those favourable circumstances arising from the strength of the patient, and the degree of intensity of the disease, which may, sometimes, dispose to a spontaneous cure.

"7. Are there any signs, which indicate the future approach of croup, or which may suggest means of obviating them, and of preserving individuals from its attack?"

M. Double enters into the general history of Croup and its diagnostic symptoms. He distinguishes the complaint into five periods, and proceeds, with great minuteness, to explain all its symptoms as they are generally observed. Many remarks are made on the state of the parts after the termination of the disease; and he concludes by observing, that the inflammatory, nervous, or catarrhal states of the larynx, or trachea, whether the diseased action be confined to these parts, or communicated to the lungs, leaves a debility, or a point of irritation on these organs of variable extent. These circumstances, then, causing an increased secretion of mucus, produces at first habitual cough, frequently noticed as a sequela of croup; which, by the agitation of the thorax, augments the irritation, and gives rise to an inflammation either of the air-passages or of the substance of the lungs. The inflammation, thus superinduced, when it proceeds to suppuration usually terminates in pulmonary consumption, or a protracted and fatal affection of the larynx.

Our author inspected the bodies of many individuals who had died of croup, and generally found the substance of the lungs in a healthy state. In some instances, however, the

lungs were inflamed on particular points of their surface; and in others there were adhesions with the pleura. He has occasionally found them full of dark-coloured blood and serum, and sometimes discovered a quantity of pus. In tracing the bronchiæ through their minute ramifications, they were usually found to be filled with mucus, which was of firmer consistence in the trachea, where it was seen, as it were, pasted on the surface of the tube, forming a membrane-like concretion of variable colour and texture.

It is to be remarked, that the appearances do not always correspond with this description. The mucous membrane of the bronchiæ and trachea does not always sustain a change of appearance; although it is often red, inflamed, and dry, or tumid, moist, and whitish. Its tumefaction is sometimes very obvious, and the alterations alluded to are either observed as patches on certain parts, or extended over the whole surface. The upper part of the trachea is the most usual seat of deviation from the natural structure, which is likewise sometimes observed in the larynx, and extending to the smallest ramifications of the bronchiæ.

The situation, or extent of the surface affected, will occasion some variety in different cases of croup, without making any essential difference in the indications, or mode of treatment: but the intensity of the malady, its rapid or slow progress, may be thus sufficiently explained.

An examination of the membraniform concretions detected in the croup has been attentively made; yet on this point we find practitioners differing in sentiment, without sufficient consideration of time and circumstance. One writer (Bergen) declares that they are organised, and that he could trace a regular disposition of longitudinal fibres. Another (Michaelis) asserts, that the membrane is a true polypus of the trachea; an opinion which is favoured by Professor Murray, who says in the 4th volume of Memoirs of the Society of Gottingen, (page 15,) "Hosce polypos materiæ convenire arbitror cum membrana adventitiâ illâ quæ in anginâ, croup dictâ, oritur." Yet these authorities, however respectable, are fallacious.

An adventitious membrane caused by the action of vessels on a secreting surface, under the influence of inflammation, will always be found of variable structure according to the period of its formation. That which at first was an exudation of coagulable lymph, will soon become condensed, and ultimately organised. Those which we often find in the cavities of the thorax and abdomen, usually originate from mere effusions of fluid upon the respective inflamed surfaces; and practitioners of any experience must have had opportunities of observing the gradations of change by the inspection of bodies, where life had

been destroyed at various periods of the progress of local inflammation. But to return—however slender may have been our opportunities of inspecting concretions in croup, it is obvious that they are merely secretions from glands and the mucous membrane, which assume an organised form, without real organic existence, or that this form is quite independent of vitality.

It should seem that animal mucus has a singular tendency to concrete by the influence of external air, as we observe instances of this on the surface of the skin, in the nasal passages, and in the meatus auditorius of some individuals. The thickness of the concretion is various, its consistence also differs, being found in every degree from that of mucus to dried membrane; and its adhesion to the surface on which it has been produced is not always the same. M. Double analysed three different portions of the membranous concretions, and drew the following inferences:

"1. Neither cold nor warm water act upon them; except that portion which has not become condensed, or is yet mucus, which mixes with water, renders it milky, saponaceous, and frothy when agitated.

"2. They are insoluble in boiling water, even after having been long kept at the boiling point; and, consequently, are not disposed to form a jelly when cold. This insolubility is a quality of the inspissated mucus of the bronchiæ, even when not in a membrane-like form.

"3. These concretions, and mucous matters (*mucosités*), when exposed to dry air, at a moderate temperature, have been found dry and horny at the expiration of six weeks. They acquire a transparency and brittleness analogous to gummy substances.

"4. When submitted to the action of a moderate heat, in a glass vessel on a naked fire, these substances before they become dry, swell, rise in a sort of froth, and are rarified; but do not coagulate in the manner observed in albumen, which is believed to be a substance very different from these concretions. On continuing the heat, a dry cinder was produced, in quantity too inconsiderable for analysis.

"5. Exposed to the agency of fire, without any intermediate substance, the concretions burn like all other animal matter, swell rapidly, decrepitate when quite dry, and are reduced to a blackish cinder.

"6. These substances dissolve readily and completely, even without heat, in water containing either acid or alkali. A few grains of the concretion were put into urine at the moment of its being passed from the bladder, and dissolved in it.

"7. Neither alcohol, nor the decoction of tannin, have any effect on these concretions."

The ingenious author then details the result of some experiments instituted for the purpose of exciting inflammation on

the trachea and bronchiæ, by the inhalation of various gases, to ascertain whether a membrane like that in croup would be produced: in this, however, he failed, the utmost excitement having only occasioned an exudation of inspissated mucus, and produced a high degree of vascularity on its surface.

M. Double next presents his readers with a learned and elaborate detail of the sentiments of many of the most esteemed medical writers, from the period of Hippocrates to the present time, to shew whether the disease had been clearly recognised, and distinguished from other species of angina. Our limits will not permit us to follow him through this part of his work, which, in quotation and commentary, occupies 120 pages. It is creditable to him as a man of literary and professional research; and, as far as our own reading and opportunities of reference to the authors named, permit us to decide, it is correct. Hippocrates, Celsus, Galen, Aretæus, Cœlius Aurelianus amongst the ancients, Etmuller, Severinus, Bartholine, Horstius, Tulpius, Bonetus, Fernelius, Riverius, and a great number of authors, who may be considered the reviewers of Medical Science, are enumerated; besides most of the writers of the last and present century, who had published on Angina.

M. Malouin is said to have been the first practitioner who described this complaint as existing during the prevalence of an epidemical catarrh, and an ulcerated sore throat in Paris, in the years 1746, 7, 8, and 9; but more particularly in 1746. His description is evidently that of a disease differing from either catarrh, cynanche tonsillaris or maligna; and, although he had not found a name for it, we must allow that his account is free from ambiguity.

"Cette maladie (says he) n'attaquait que les jeunes personnes, et particulièrement les enfans; elle paraissait plus funeste quand elle etoit dans la Trachée-artère; elle ne s'est jamais terminée sans que les malades aient rejeté en toussant, des escharres, ou des hambeaux de membranes. (Again he says), M. de Lepi, Medicin-anatomiste eleve de feu M. Duverney est le premier qui, cette année (1746) ait en occasion d'en voir; ce fut un enfant de six à sept ans, qui cracha, le quatrieme jour de sa maladie, un canal membraneux, qui etoit une portion considerable de la membrane interne de la bifurcation de la trachée artère, où l'on distinguait, à la vue, les impressions des anneaux et les vaisseaux de cette membrane: l'enfant mourut le quatorzieme jour de sa maladie."

Dr. Starr, of Liskeard in Cornwall, wrote in 1749 on this disease, which he called Morbus Strangulatorius; and describes it as very prevalent at that time in his district. He notices the "difficult, noisy, and strangulating respiration."

Middleton (1752), Bergius and Rudlerg (1755), mention instances of the disease, now known by the name of Croup; and

Dr. Bergen, of Frankfort on the Maine, described a catarrhal epidemic in that neighbourhood, in 1759, which he called *Morbus Truculentus Infantum.* This disease must have been croup; for the description of one of his own children destroyed by this malady is clear and precise. After enumerating all the symptoms of oppressed, asthma-like respiration and the consequences of an imperfect diffusion of oxygen through the system, by which the countenance became livid and the extremities cold, he says—

"Hanc tristem experientiam in propriâ filiâ septenni feci in quâ hoc singulare simul se obtulit phænomenon, quod, duodecim circiter horas ante mortem, tussi et screatu rejecerit tubulum membranaceum.

"Hunc tubum judico esse portionem membranæ tubulosæ per ramos bronchiorum, durante morbo, generatæ; quod figura conica ejus et ipsi inhærentia vascula sanguinea declarare videntur. Cylindricus verò œsophagi tubus hujus membranæ sedes esse non potuit, atque cum semper de dolore pressorio ventriculi conquereretur et vermes suspicarer colludentes tubulum, huncce exquisitè perlustravi et nihil inveni quod cum structurâ vermis convenientiam ostenderet."

It would be something worse than folly not to admit that Malouin, Bergen, and others, had met with croup, and described it with accuracy. We may presume, that their edited remarks and the observations of cotemporaries, paved the way to a more complete history of the complaint, which in 1765 was given to the world by Dr. Home of Edinburgh, who had great merit in making a faithful report of his own observations, and in determining the character of croup with more precision than any of his predecessors.

To trace the history of this disease through all the writings of those who have published on the subject since Home, would be more tedious than instructive: it is sufficient to say, that its inflammatory disposition having been demonstrated, an accurate pathological account of its symptoms, and a more rational prognosis, were soon given to the world. Among the more recent treatises, that of Dr. Cheyne may be considered as containing the most correct description of the disease. Simplicity and clearness are its prominent features.

It should seem, that a cold and damp season is favourable to the production of this tracheal affection, which occurs during the prevalence of catarrh, and that children are the usual subjects of its invasion. The very nature of the complaint precludes the idea of contagion. The distinguishing characteristics of the disease are very minutely described by our author, who proceeds in due form to caution his readers not to confound them with spasmodic asthma. We consider it unnecessary to enumerate his precautions, convinced that no well-

educated practitioner can require them, and that others could not profit by them.

Our author divides the Croup into three species: 1. Catarrhal; 2. Inflammatory; and 3. Nervous. The general characters of the first are thus expressed:

"Coryza and a general catarrhal affection strongly marked from the commencement; febrile accessions at the beginning, and sometimes, during the whole course of the disease; irregular rigors and flushings of heat; expectoration of a great quantity of mucus; a dull pain, or rathor uneasiness about the trachea. Neither swelling, nor redness internally, nor externally, are perceived; on the contrary, the lower part of the fauces is sometimes seen covered with a layer of whitish mucus of variable thickness.

"This species is generally prevalent in winter and during cold and humid seasons. It is the most frequent of all, so that it may be considered the principal type of croup. It is also that which is of slowest progress. The intermissions are less marked than in nervous croup; but more perceptible than in the inflammatory kind. These intermissions of the catarrhal croup are very transitory, (ne durent guère qu'un moment); yet, there is a pretty evident exacerbation every evening, as observed in all severe catarrhal affections.

"In this species the eyes are languid, more or less watery; the face bloated, pale and livid. In general perspiration flows abundantly; the sputum is considerable and formed of mucus of different degrees of viscidity. The expectoration, or vomiting of portions of membranous concretion, is more particularly observed in this state of the disease."

M. Double then quotes four cases of catarrhal croup, one from Dr. Wilcke, of a nobleman's son of 5 years old, which terminated fatally on the 8th day. It seems to have run its course with little interruption, from Dr. Wilcke, if we may judge from these words:

"Remedia quæ alvum ducerent, emetica, refrigerantia, incidentia, gargarismata, injectiones; externè verò spiritum cornu cervi cum oleo olivarum junctum, summâ licet curâ frustrâ tamen tentarunt."

The second was a well marked case of a child two years old, treated at the commencement by ipecacuanha and antimonial emetics, by M. Dessarts, in 1807. A blister was applied to the neck. Portions of an inspissated substance were sometimes seen to rise from the throat, but could not be extracted; and were swallowed and perceived in the child's stools. The bowels were kept open, and a decoction of virginian polygala with oxymel of squills and syrup of orange flowers was given, in doses sufficient, we presume, to excite and keep up nausea with occasional vomiting. The child was well on the fourth day.

The third case is that of a sister of Michaelis, a child five

years of age. It terminated fatally on the fifth day. The treatment was not such as to have prevented this formidable disease from interrupting the vital functions, for we find that venesection was performed on the *fourth* day, instead of the first hour; thus allowing the malady to proceed to a fatal extent before the best remedy was resorted to; and could then only accelerate the event. We wish, indeed, that continental practitioners would awake to the necessity of *early* bleeding in this disease. We mean the prompt abstraction of blood, in such a quantity as to lower vascular action, upon the tracheal surface, before it has continued long enough to produce any exudation, or effusion of coagulable lymph, or whatever it may be that constitutes the adventitious membrane. This we believe to be the only period when bleeding can be useful; and we do not hesitate to say that it is the only remedy which can benefit the patient at the commencement of croup. Vascular action and irritability being lowered, and the impulse of the disease arrested, the counter-stimulus of a blister on the anterior part of the neck, from ear to ear, will do much towards the prevention of the subsequent and more distressing symptoms, and the formation of the substance alluded to. The employment of emetics and nauseating doses of antimonials, with due attention to the bowels, should be commenced immediately after bleeding. By these means the progress of croup may be averted; but if we trust to trifling remedies, and the inflammatory action be allowed to proceed, during the first days, we shall have to lament the frequent loss of our patients, and to witness that distress which promptitude and energy would have averted. Well might Michaelis say, "*Quarto die vena secabatur; attamen frustrà*," &c.

The fourth case is one of a child five years old. The physician went on with clysters, gargles, saline medicines, and the warm foot-bath until the sixth day, when the complaint terminated fatally.

The general characters of the second or inflammatory species of croup are thus described by M. Double:

"A sudden attack of the disease without symptoms of coryza and with cough only; violent pain in the throat with a sensation of increased heat; and, sometimes, perceptible local inflammation. The pain at the commencement is mostly lancinating. The difficulty of respiration is greater than in the former species. The voice is sonorous and hoarse; but, although it has the defined sound of croup, in general, yet it presents a modification, which is better conceived than expressed. All the symptoms in this species are very violent. The face is red and swelled, the pulse strong and frequent, and there is a considerable degree of fever, sometimes attended with delirium."

The disease proceeds with greater rapidity than in the first

species; and the remissions are less marked, because the inflammatory diathesis is more disposed to continue. The expectoration of the membrane-like substance also is more common. That this species is more frequently cured, our author attributes to the greater proportion of natural strength possessed by individuals, who are the subjects of its attacks. His words are—

"C'est dans cette espèce que les guerisons sont le plus fréquentes; d'abord à raison de l'excitation des forces dont j'ai parlé, mais aussi à cause de la circonstance extremement favorable dans laquelle se trouvent les individus atteints de cette espèce de croup; ils sont tous forts et robustes, en sorte que les mouvemens que la nature deploie sont bien plus prononcés et plus durables que dans les autres espèces." (397.)

Four cases are given to prove the activity of the inflammatory action, but they may be rather considered as presenting instances of a greater intensity of the first species than constituting a second species of croup. One of the subjects of these cases was a young man in Italy, in whom the disease was successfully treated upon the strict antiphlogistic plan. Another was a child, six years and a half old, which died; the third is taken from Dr. Home's work, being his fifth observation; and the fourth is Dr. Cheyne's third case; to which we refer our readers for an example of excellent and decided practice.

The following are the general characters of the third species, or nervous croup, described by our author:

"One of the principal signs which announce the predominancy of the nervous state in croup, is the disposition observed in the disease to assume a regular type, with alternate remissions and exacerbations. The internal surface of the throat presents no symptom except unusual dryness, without inflammation or the appearance of mucus (sans mucosités). The pain of the trachea is neither pungent nor acute, nor absolutely obtuse; it is the sensation of constriction and uneasiness.

"In the nervous croup, the cough is dry and accompanied with more irritability; the oppression and agitation are more intense; the pulse is small and hard; and convulsive motions are evident during the cough and respiration. It is in this species that antispasmodic medicines, particularly assafœtida and emetics, are found to be beneficial, although no evacuation (of membrane we suppose) may occur."

On opening the bodies of subjects destroyed by this species of croup, the adventitious membrane is described as being more dry than in the other species. It is said to be of the least frequent occurrence. Four instances are quoted to prove the existence of the malady in this form.

Our author next proceeds to describe what he terms compli-

cations of the croup; such as catarrhal and inflammatory, catarrhal and nervous, inflammatory and nervous. The co-existence of croup with angina maligna, with variola, with pulmonary defluxion, peripneumony, pleurisy, scarlatina, apthæ, and abdominal obstruction, are also noticed. This part of our author's labours we regret to say is by no means creditable to him as a man of observation and industrious research. He labours to make distinctions without difference; and loses sight of the broad features of character, which can alone enable him to treat this or any other disease with the best hope of success.

In detailing the treatment of the disease, M. Double first notices that of the catarrhal species. "The object in view," says he, "ought to be—

"To impress on the system generally, and particularly on that of the mucous membrane, a degree of energy sufficient to liberate itself from the fluid (matières), which has a tendency to obstruct it, and to destroy the morbid secretions."

To fulfil these intentions, emetics, we are told, should be prescribed. Ipecacuanha is preferred for the very reason we would not select it. "En raison de son action tonique."—Sternutatories, sialogogues, dry friction, volatile liniments, and ethereal fomentations, with blisters on the anterior part of the neck and thorax. Bleeding, to our astonishment, is deprecated in these strong terms:—"En effet, ce moyen hâterait certainement la mort, si on l'employait dans ce cas."

The treatment of the second, or inflammatory species of croup, is well conceived and expressed with sufficient clearness.

"To attack phlegmasia by the most appropriate means, to act more particularly on the local injury which exists in the larynx and trachea, are the principal indications in this species of croup."

Following these principles, bleeding with the lancet and by leeches, the antiphlogistic regimen to its fullest extent, laxative medicines, emollient cataplasms to the neck, and the warm foot bath, are directed. The employment of calomel is noticed in a manner that convinces us that M. Double does not understand the use of it in this complaint.

"Quelques auteurs ont cru remarquer, que les preparations mercurielles, le mercure doux entre autres, combattaient efficacement l'etat inflammatoire," &c.

The treatment of the third or nervous species being entirely upon the antispasmodic plan, we observe abundance of medicines of this class recommended: assafœtida taken by the spoon, or in an enema, musk, opium, camphor, æther, hemlock, castor, &c. External friction of the neck with volatile

liniments, and those of which sulphuric æther forms a part, are much insisted on. The advantages of this plan of cure are said to have been very apparent in the author's own practice, and in that of one of his friends.

M. Double enters fully into the treatment of croup, when complicated with other diseases; but we do not find any observations that could be instructive to our readers, who, most probably, would not enter into his views; and would be justly apt to consider every thing else secondary, during the existence of an inflammation of the trachea. The complications, as they are called, which are most likely to occur, must rather depend on the state of the individual at the time of the attack of the disease, than upon any co-existing malady. An infant, for instance, under the immediate influence of fever from dentition, or with foul bowels, or the infantile remittent fever, is ill fitted to sustain the shock of a new and acute inflammatory affection, in a part the functions of which cannot be interrupted without the most imminent danger.

With respect to the three species and their varieties, we are persuaded that too much confusion has been suffered to prevail in the ideas of writers on this subject, and that much of the diversity described has arisen from the different periods in which the complaint has been seen. We consider the croup to be, simply, an inflammatory disease, differing in intensity, like other complaints, in most individuals; and this difference modified by accidental causes. Our own experience leads us to believe that this is the fact, and we have not been able to discover reasons sufficient to change our opinion from any thing we have read in those numerous authors on croup, which have fallen to our perusal.

M. Double's work being intended to take a comprehensive view of croup upon general principles, judiciously avoids giving particular formulæ, which should ever be left to the judgment of the prescriber.

If we allow that this work contains many useful observations, and is evidently the production of an intelligent man, we must at the same time observe, that the author is still embarrassed with the trammels of that operose and inefficient practice, which has so long disgraced the profession of medicine on the continent.

II.

An Account of Baths and of a Madeira-House at Bristol; with a Drawing and a Description of a Pulmometer: and Cases shewing its Utility in ascertaining the State of the Lungs in Diseases of the Chest. By EDWARD KENTISH, M.D. 8vo. pp. 117. London. 1814.

IT is the opprobrium of the British Islands, that their climate, either by its variableness or by some specific quality of its atmosphere connected with this mutability, is productive of diseases of the pulmonic system of the most fatal character. To obviate this deleterious quality, which even Englishmen allow exists to an alarming extent, has been often attempted, and has as often failed. The principal view of those who would guard the tender lungs of the phthisical against this peculiarity of their native atmosphere, has been to preserve certain portions of it in a steady temperature of from 62 to 65 degrees of Farenheit, in apartments wherein the invalid might reside, breathing only this regulated temperature, and being never exposed to the influence of air colder than 62°.

The projector of this plan, as far as we at present know, was Dr. Adams, who having resided in the Island of Madeira, thought of establishing its genial temperature, under certain artificial contrivances, in England, to such an extent as might present an asylum to the consumptive during the inhospitable period of our year, and obviate the necessity of their seeking protection in a foreign land. Dr. Buxton pursued this plan, it was said, with some effect; and now Dr. Kentish offers to the invalid a *Madeira-House* at Clifton, in which he intends to "concentrate whatever may contribute to the restoration of health."

"The public rooms, stair-cases, and passages, are to be kept at a Summer temperature of 62 to 65 degs. and the private apartments are to possess a power of being kept at any temperature which the feelings of the resident may suggest, or his physician prescribe. It is proposed, also, to comply so far with national prejudices, as that the fire-side may be enjoyed; but instead of the air which the fire consumes being drawn from without, through the windows and doors, there will be a supply of warm and fresh air into the rooms, by air stoves. An extensive conservatory for exotics is intended as a promenade, and pleasure grounds are to be laid out and cultivated as a Botanic Garden. A covered circus, for equestrian practice, at all seasons, and for other exercises, suited to the strength of the invalid, active as well as passive, will also be introduced.—There are also to be hot, cold, and vapour baths, and a constant supply of the most approved mineral waters. Thus the inhabitant of this Hygeian

Temple may avail himself, in one spot of all the scattered gifts of Nature, which the experience of ages has proved to be beneficial for the restoration of health."

In this Elysium we cannot much doubt but the symptoms of phthisis may be mitigated; and that this fatal disease may be there cured, we shall most gladly admit when experience shall produce evidence of the fact.

The pamphlet before us, in which the prospectus of this project is contained, includes a number of short essays on subjects connected with the plan of a *Madeira-House.* They are on natural and artificial thermal waters—on some analogies between plants and animals—physiological inquiries on life—division of life into animal and vegetable, or organic life—subdivision of animal and vegetable life into two orders of functions—of the effects of climate on vegetables—of the effects of climate on animal life.

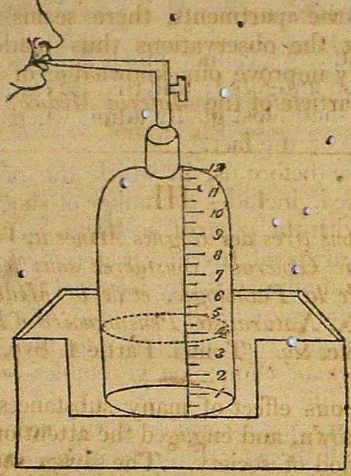
Of the necessity for ascertaining with accuracy the precise state of lungs in all their morbid alterations, every practitioner will have a sufficient apprehension. But how this is best to be effected, still, perhaps, remains doubtful. The invention of Dr. Kentish, as described in the latter pages of this pamphlet, in "*An Account of a Pulmometer, by which may be known the Power and Capacity of the Lungs to receive the Atmospheric Air,*" certainly, however, deserves the regard of practitioners.

After commenting on and rejecting the method of examining the state of the chest by percussion, as first proposed by Avenbrugger of Vienna, and adopted by Corvisart, as sufficient for ascertaining the condition of the thoraic viscera, Dr. Kentish explains his own invention. Upon the datum that the lungs of a middle-sized man, being in a healthy state, have a recipient capacity for admitting at one inspiration eight pints of air, a standard is fixed for measuring the morbid deviations, and which has sometimes descended to a diminished capacity of admitting but one pint.

"The machine I use at present is a glass jar, which is inverted into a pneumatic trough. The trough is filled with water up to number four, so that two quarts of water stand in the bottom of the jar when it is ready for use; at the upper part of the jar a tube passes, in which is fixed a stop cock; about two inches above the cock the tube turns at a right angle, and is carried horizontally for near six inches; it is then flattened into a mouth-piece, which enables the person using the machine to close the lips about it with greater facility."

In order to give our readers a clear comprehension of this machine, we have given an outline of it.

THE PULMOMETER.



This jar will hold twelve pints of air, four of these pints, as far as the dotted lines, are occupied, when it is sunk in the pneumatic trough, by four pints of water; so that eight pints of air remain in the jar upon the surface of the water. As the patient, whose mouth is applied to the tube, inspires the air from the jar, the water rises and marks on the scale, engraved on the glass, and divided into pints and half pints, the exact quantity of air the lungs are capable of receiving*. By this the degree of diseased alteration of the capacity of the lungs is ascertained. To what extent a clear knowledge of the morbidly diminished capacity of the lungs for inhaling air may be useful, as pointing out a curative process, or as indicating the cause of the morbid change, it is not easy at present to say: it seems, however, quite certain, that the power of ascertaining the state of the breathing capacity of the lungs is given to us by Dr. Kentish's Pulmometer.

The points in medical practice which Dr. Kentish purposes to elucidate at his establishment, are the medicinal properties of the warm and vapour baths, when managed with all possible correctness; and the remedial powers of a regulated temperature in morbid states of the pulmonary system. As medical

* This machine is a little altered from Dr. Kentish's; but whether with advantage, those who compare the two will decide. The stop-cock in the neck of the tube enables the operator to secure the cavity of the jar in the state in which the patient leaves it, after making the exhaustion by inhaling a portion of the contained air.

practitioners are permitted to have the care of their own patients in this establishment, with full authority to direct the baths and temperature of the apartments, there seems a well-grounded expectation that the observations thus made on the subject may considerably improve our knowledge of the management of caloric as an article of the *Materia Medica.*

III.

Traité des Poisons tirés des Règnes Minéral, Végétal, et Animal, ou Toxicologie Générale, considérée sous les rapports de la Physiologie, de la Pathologie, et de la Médicine Légale, par M. P. Orfila, *Naturaliste Pensionnaire d'Espagne, Docteur en Médicine,* &c. &c. Tom. i. Partie 1. 8vo. p. 298. Paris.

The deleterious effect of many substances on the animal body became known, and engaged the attention of mankind at a very early period of society. The savage soon learned to obtain from them means to render more terribly effective his implements of war: and afterwards, on his throwing aside the deer skin and the club, and beginning to enjoy the blessings of civilization, we find him drawing from the same source many of the means of restoring health to his diseased frame. As he advances in refinement, the researches of philosophy bring to his notice many things which would otherwise remain hid in the bosom of the earth, and produce new combinations which have no prototypes in nature. These must necessarily encrease the number of poisons; but if Science present the bane with one hand, in the other she also holds out the antidote. To become acquainted with the nature and operation of poisons, therefore, is an object of the first importance for the medical philosopher; and the great progress which chemical science has made in modern times, has very much facilitated the acquirement of it. It is nevertheless remarkable, that a complete treatise of *Toxicology* is, at this day, a desideratum in medical literature; for although the work before us promises fair to fill up the void, yet it is impossible to pronounce how completely it may answer the expectation it has raised, as the first volume only is before the public.

Possessed, however, of an ample fund of chemical and physiological lore, with apparently great industry, and a talent for minute investigations, M. Orfila seems well qualified for the task he has undertaken. We confess, that we have received both amusement and instruction from the portion of his work we have perused; and as the subject is one of the highest interest to the profession, we shall examine the parts separately,

and will endeavour to give as extended an analysis of them as our limits can permit. We trust it may have some effect in directing the attention of practitioners to the study of *forensic medicine*, a branch of the science which has been most unaccountably neglected in this country; and owing to which, from the inept displays too often occurring in our courts of judicature, much undeserved contempt has been cast upon medical acquirements.

In the preface, our author lays before his readers the plan of his work. He has divided the investigation into two sections, preceded by an introduction on the objects of Toxicology, pointing out its connection with the other sciences, and the best means of studying it with effect. The first section contains the history of the different poisons drawn from the three kingdoms of Nature, comprehending their chemical characters, their physiological and pathological relations, and their connection with medical jurisprudence: while the second is intended to present a general view of all the circumstances connected with the operation of poisons on the animal œconomy. We have now to examine in what manner M. Orfila has filled up the design, of which this is the outline.

After stating, that the term *Toxicology* is derived from the Greek words τοξικόν, *poison*, and λογος, *a discourse*, our author commences his introduction with the following definition of the word *poison*:

"Every substance, which when taken internally in a very small dose, or applied in any other way to a living body, destroys health, or altogether extinguishes life, is denominated a *poison*."—p. 1.

To study the nature of a substance of this kind with advantage, it is necessary to examine both its particular characteristics, or its natural history and chemical properties, and its effects on the animal body: and, to facilitate the examination of the whole range of poisons, an arrangement of them into classes is requisite. Taking for the basis of his classification the action of the various poisons on the animal œconomy, M. Orfila has arranged them under six classes.

" *Class* 1. Corrosive or escharotic poisons.
" —— 2. Astringent poisons.
" —— 3. Acrid poisons.
" —— 4. Stupifying or narcotic poisons.
" —— 5. Poisons possessing both narcotic and acrid properties.
" —— 6. Septic or putrefying poisons."

The classes are subdivided into species, and these again into varieties.

To this arrangement we know of no objection, if we except the second class. The single species of which it consists con-

prehends the preparations of lead, which do not, in our opinion, produce their deleterious effects so much by their astringent properties as by their sedative influence on the nervous energy: but we should be anticipating, were we to enter on the consideration of this subject at present, and therefore we reserve the arguments which we have to advance in support of our opinion, until our examination of this particular class.

According to the above classification, the first chapter of the first *section* necessarily treats of *Corrosive Poisons*. This class comprehends fifteen species:—1, Preparations of mercury —2, preparations of arsenic—3, the antimonial preparations —4, those of copper—5, —— of tin—6, —— of zinc —7, —— of silver—8, —— of gold—9, —— of bismuth—10, the concentrated acids, the sulphuric, nitric, phosphoric, muriatic, &c.—11, the caustic alkalis, pure, and combined with carbonic acid—12, the caustic alkaline earths, lime, barytes —13, the muriate and the carbonate of barytes—14, pulverised glass and enamel—15, cantharides.

In his general observations on corrosive poisons, our author has not advanced any very new opinions, although he has placed those already known in the best point of view: we therefore pass on to his investigation of the species of this class, the first of which, "*the mercurial poisons*," comprehends the following six varieties:

"1. Corrosive sublimate, or muriate of mercury at the maximum of oxidation.

"2. Red oxide of mercury (precipitate *per se*, red precipitate).

"3. Turbith mineral (*sous-deuto sulfate de mercure*).

"4. The nitrates of mercury at the maximum, at the minimum, and acid, or with an excess of base.

"5. All the other preparations of mercury, except calomel.

"6. Mercurial vapours and mercury in a state of extreme division.

"The study of the mercurial poisons," M. Orfila justly observes, "is that part of medical science which requires the most scrupulous attention. The experience of every day confirms the great advantages derived from their administration by men who thoroughly understand their mode of action: while the temerity of quacks, on the other hand, too often furnish irrefragable proofs of their deleterious effects. Without the least knowledge of the nature of these bodies, or of their immediate and energetic action on the animal œconomy—without having the smallest regard to the constitution of the patient whose confidence they have usurped—and even asserting that there is no danger in the administration of these substances—they prescribe the most frightful doses of mercurial preparations, which seldom fail to produce fatal effects, as we shall have occasion to notice in speaking of slow poisons. It is only by an attentive study of these substances that their proper employment can be understood."—p. 22.

Our author, therefore, enters very minutely into the investigation of the mercurial poisons, prefacing their chemical history with some observations on mercury in its metallic state, and on calomel, properly alledging as his reason; "Ces notions seront d'un très grand secours pour expliquer les phénomènes dont nous parlerons par la suite."—p. 23.

The first of the mercurial poisons in the order of arrangement is *Corrosive Sublimate.* After stating that this metallic salt is a compound of muriatic acid and oxide of mercury at the maximum of oxidation, the physical characters of the salt are minutely and accurately described. Our author then details the circumstances attending the decomposition of sublimate, both in its solid form and in the state of solution in water, by caustic potass, antimony, carbonate and subcarbonate of potass, ammonia, hydrosulphuret of ammonia, nitrate of silver, muriate of tin at the minimum of oxidation, triple prussiate of potass, metallic mercury, a polished plate of copper, and a plate of zinc. The theory of the operations is perspicuously displayed; and, in noticing the effect of metallic mercury, an observation of Fodéré, in the second edition of his *Medicine Legale*, is rendered more explicit. That author says "that sublimate and running mercury, triturated with lime water, form a black mixture:" but M. Orfila properly observes that this is true, only if the sublimate and running mercury be first triturated together, until all the globules of the mercury disappear before the lime water be added; for if the lime water be poured upon the mercury, and the sublimate then added, the yellow oxide of mercury is formed, even if trituration be continued for an hour; and if the sublimate in powder, and the mercury, be at once mixed with lime water and triturated, a yellow precipitate is first formed, and the mixture becomes black only by degrees, as the sublimate and mercury, acting upon each other, are changed into the muriate at the minimum, or calomel.

Besides the substances already noticed as decomposing sublimate, our author adverts to the experiments of M. Boullay, who remarked, that, in mixtures of this salt "with the distilled waters of certain plants, the root of *lapathum sylvestre*, extracts, oils, syrups, honeys, and gums," sooner or later, "the muriatic acid is set free, and the mild muriate is precipitated, with a portion of the vegetable matter, in an altered state." The effect of sulphuric æther in dissolving sublimate is next particularly described; and then that of Burgundy wine, which, as it is interesting in a forensic point of view, we shall here transcribe.

"If twelve grains of corrosive sublimate be dissolved in distilled water, and six ounces two grains of Burgundy wine be added to the solution, no turbidness occurs; but the mixture possesses peculiar pro-

perties which ought to be known. Potass throws down a black precipitate; ammonia a very deep green, approaching to black; prussiate of potass a white, which changes to a violet; and syrup of violets, instead of being rendered green, is reddened by it. A plate of copper and the hydrosulphurets produce the same effect as in the simple solution of the corrosive sublimate. These facts prove that in a case of an individual being poisoned, whose stomach may contain wine, the action of re-agents, which alter the colours of the precipitates, ought not to be received as tenable evidence. If a greater quantity of sublimate be added to the wine, it becomes turbid, and deposits a violaceous precipitate."—p. 45, 46.

But the substance, the knowledge of the action of which on corrosive sublimate is the most important to the medical practitioner, is albumen. We are willing to believe that our Readers will not be displeased, if we transfer the entire account of the chemical combinations of these substances to our pages, both as the subject is sufficiently interesting to excuse a long extract, and as it affords a good example of the manner in which our author treats his matter. We will endeavour to render the passage as literally as the structure of the two languages permit.

"The action which albumen* exerts upon the solution of corrosive sublimate is extremely interesting, and deserves to be minutely described. If a considerable portion of solution of sublimate be poured into the albumen, a white flocculent precipitate is formed, and instantly unites into a mass; which, when thoroughly washed, dissolves slowly, and in a small quantity, in an excess of albumen. When dried upon a filter, it usually assumes the form of little hard morsels, brittle, and easily pulverized, semi-transparent, chiefly at their edges, of a yellow colour, insipid, inodorous, not altered by exposure to the air, and insoluble in water. When heated in a small glass tube, these morsels swell, become black, and are decomposed in the same manner as animal substances, emitting the smell of burnt horn, and much smoke. If the tube be broken after the operation, an extremely light charcoal is found at the bottom, and the interior, as far as the middle of its length, is lined with globules of mercury. The nature of the products, when the experiment is made in close vessels, instead of an open tube, demonstrate, that this precipitate is composed of muriate of mercury at the minimum and animal matter.

"The apparatus† in which the experiment ought to be made, should consist of a tubulated glass retort, for holding the yellow precipitate, having joined to it, by a lute capable of resisting a very

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* "The albumen of which we speak, is nothing else than the white of egg dissolved in water and filtered."

† "This description in the original is assisted by references to a figure."—Editors.

strong heat, a porcelain tube, which should traverse a reverberatory furnace filled with charcoal. To the other extremity of this porcelain tube, should be joined a simple tube, bent into a right angle, and passing into a bitubulated receiver, containing distilled water to the height of about two lines. Finally, from the second opening of the receiver, a tube of safety should pass, and open under a bell glass filled with mercury, and placed in a mercurial trough. The apparatus being mounted, the joints must be accurately luted before the operation is begun.

" *Experiment.*—The porcelain tube being first made red hot, during which the air of the apparatus is dilated by the heat, and expelled; and the retort then gradually heated, in a short time the substance it contains is observed to swell, puff up, and become black on the surface; some gas is disengaged, and lastly, the water in the receiver becomes turbid.

" The products of this operation are—1° some charcoal which remains in the retort; 2° metallic mercury volatilized and adhering to the sides of the neck of the retort; 3° some muriatic acid which is contained in the receiver, the tube which enters it, and the neck of the retort; 4° all the products that result from the decomposition of animal substances at an elevated temperature.

" Ninety grains of the dried precipitate furnish thirty grains of metallic mercury, four grains of muriatic acid, and fifty-six grains of animal matter. These proportions of acid and mercury being nearly those which constitute the muriate of mercury at the minimum, we may conclude, that the precipitate is a compound of animal matter, and that salt.

" *Theory.*—The albumen is changed into the charcoal which remains in the retort, and into several volatile products also by the action of the caloric. This charcoal acts upon the muriate of mercury at the minimum, and changes it into metallic mercury, which volatilizes and adheres to the sides of the glass, while at the same time carbonic and muriatic acids are produced.

" The correctness of this explanation may be rendered still more evident by the following experiment:—If a portion of the precipitate, dried and finely pulverized, be boiled for the space of half-an-hour, with a solution of pure caustic potass, muriate of potass is formed, and the black oxide of mercury deposited, soluble in nitric acid, with which it produces a nitrate of mercury at the minimum of oxidation. It is evident, that in this case the potass decomposes the muriate at the minimum, by the greater affinity which it exerts for muriatic acid.

" If instead of pouring a large quantity of the solution of sublimate into the albumen, a small portion only be used, the fluid becomes turbid, milky, and after some hours lets fall a precipitate. If this mixture be filtered, the white precipitate of which we have been speaking, remains on the filter, while a perfectly limpid fluid passes through, which is merely some albumen holding in solution a portion of the precipitate.

" When less albumen than in the preceding case is employed, the same phenomena occur, with this slight difference, that the fil-

tered fluid, besides being composed of a portion of the precipitate dissolved in the albumen, contains also a certain quantity of corrosive sublimate. It reddens the tincture of litmus, and greens the syrup of violets; precipitates the hydrosulphurets, black; acts upon a plate of copper exactly in the same manner as the sublimate; and affords a white precipitate, with a new quantity of albumen, after which it contains no more muriate at the maximum. We may add to these experiments, which prove the presence of the corrosive sublimate in this liquid, those which demonstrate the presence of the albumen. The nitric acid precipitates it white, the solution of corrosive sublimate instantly forms white flocculi in it; and it is either coagulated or rendered opaline by heat, according as the quantity of albumen is more or less considerable.

"These experiments authorize the conclusion, that albumen thus combined with this precipitate forms a soluble body with corrosive sublimate."—pp. 46, 50.

We regret that the quantities of albumen and of corrosive sublimate used in these experiments have not been defined; for not only would more confidence be given to the experiments by such a display of accuracy, but the subject itself is important.

Our author, after examining the nature of the action of gelatin, osmasom, sugar of milk, the resinous matter of bile, picromel, fibrine, milk, bile, and some other animal matters on sublimate, next proceeds to inquire into the effects of this salt as a poison, or its action on the animal œconomy when taken into the stomach. He first notices its operation as a simple stimulant, when swallowed in very small doses; as, for example, in the eighth part of a grain; and then enumerates the well-known action of doses a little larger, the effects of the long continued use of it, and the fatal consequences which result from its misapplication, even in moderate doses. That in these cases it is absorbed and decomposed in the animal system, he conceives to be proved by the facts, of which are recorded many, of globules of mercury having been found in the great cavities of the body, in the viscera, the joints, the bones, and the sheaths of ligaments. In noticing its immediately fatal effect when taken in a large dose, he inquires—"Comment cette substance vénéneuse agit-elle? quel est l'organe qui, le premier, reçoit ses funestes atteintes?" and in answering these questions, adopts the opinion of Mr. Brodie, that sublimate introduced into the stomach, exerts upon that viscus a corrosive action, which is propagated by sympathy to the heart and brain, and that death is the consequence of the suspension of the functions of these two vital organs; without any part of the poison being absorbed and carried into the course of the circulation.

M. Orfila next details the symptoms which peculiarly characterize poisoning by corrosive sublimate; and industriously traces them through a number of cases, or *observations d'em-*

poisonnement, as they are termed, some of which terminated fatally, and others successfully, before drawing the following general conclusions.

"In reviewing," says he, "the different symptoms in the patients who were the subjects of the preceding observations, we may reduce them to the following: an acrid, styptic, metallic taste; a feeling of fullness and burning at the throat; anxiety, tearing pains of the stomach and the whole intestinal canal, nausea, frequent vomiting of a fluid, which is sometimes bloody, accompanied with the most violent strainings; diarrhœa; sometimes dysentery; the pulse small and hard, frequent fainting, universal debility, difficult respiration, cold sweats, cramps of all the members, general insensibility, convulsions, and death."—p. 72.

In examining the opinion supported by *Sallin**, that the particular injury of texture produced by the action of corrosive sublimate is peculiarly characteristic of that poison, our author properly conceives, that this opinion is inadmissible, for the following very satisfactory reasons:

"1. That the general inflammation of the alimentary canal, as well as the perforation of it, may be produced by all the corrosives; 2. that the mucous membrane of the stomach may be detached by many of these poisons; 3. that gangrenous spots of the teguments may be produced by all the poisons which act with great activity."—p. 74.

The advantages to be derived by the practitioner from the previous details, in cases of poisoning by corrosive sublimate, are next investigated by our author, who examines, successively, under four distinct heads, the various cases that may present themselves.

In the first case, intitled, "*L'Individu est vivant, on peut se procurer les restes du poison.*" The state of the affected person, the preceding events, the report of those about him, and above all, the chemical examination of the poison which is supposed to have been employed, are the circumstances to be considered.

Did our limits permit, we would willingly give the whole of the directions laid down by M. Orfila, for ascertaining the nature of the poisonous substance; but as this cannot be done, we shall extract what we conceive to be the most essential points.

If the substance be liquid, after testing it successively by litmus paper, a polished plate of copper, hydrosulphuret of ammonia, nitrate of silver, potass, or its carbonate, ammonia, prussiate of potass, and syrup of violets; or any of these,

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* The morbid examination, in the account of which Sallin advanced this opinion, is given at length in a note from the *Recueil Periodique de la Société de Medeçine.* T. viii. p. 343, et seq.

according as the quantity of the substance permits; if we have reason to suspect sublimate to be the poison;

"Mix potass with what remains, and evaporate to dryness in a small porcelain capsule; then detach the dry residue, and having put it into a small glass tube, and heated it gradually to redness, the mercury will be obtained in metallic globules."—p. 78.

"If the liquid taken shall have been mixed with milk, broth, tea, wine, or syrups, it may happen, that these mixtures may be slightly turbid, without any distinct precipitate being present; or they may be perfectly clear, according to the quantity of sublimate employed."—Ibid.

In these events the same re-agents and process are to be employed as when the liquid itself is found; but if a precipitate be present, the calcining it, as already described, in a small tube, and procuring globules of metallic mercury, is the surest test of the nature of the poison. If the substance be found in a solid form, and there be reason for suspecting it to be sublimate, the same steps also are to be had recourse to; unless it may have been mixed up with fatty matters in the form of a plaister, and externally applied when a more complicated process is required; but, in our opinion, this is a case not very likely to occur.

The second case supposed, is that which is the most likely to happen—"*L'Individu est vivant; tout le poison a été avalé; on peut agir sur la matiere des vomissements.*" If the matter vomited be fluid, it must first be filtered and tested with the re-agents already enumerated; and then calcined after being mixed with caustic potass; but it may happen, that although the poison be sublimate, or some other mercurial preparation, yet no globules of the metal are perceived on breaking the apparatus. In this case, the fragments must be treated without heat, with nitric acid, which will form nitrate of mercury at the minimum, a salt easily recognized.

If what is vomited be a mixture of fluid and solid, these must be pressed through a fine linen cloth; and each of the parts separately examined; but particularly the solid part: for, from the facility with which albumen and some other alimentary matters change sublimate into the mild muriate, no sublimate may be discovered at first in the liquid. It may, however, exist in every minute quantity, and be discovered by proper means. We shall here transcribe the mode in which M. Orfila proceeded in a case of suspected poisoning by sublimate, which came under his treatment, as illustrative of this point.

"The quantity of vomited matter which I had to operate upon, amounted to about six pints; it contained some altered and not easily recognized aliment, which floated upon a greenish, turbid, somewhat thick acid liquid. Having decanted and filtered this, no

well characterized precipitate was produced by the re-agents which act the most powerfully on corrosive sublimate; the hydrosulphuret of ammonia only deepened its colour in a small degree, which led me to presume that it was a mercurial poison. I then added to it about a grain of the potass of commerce, (*sel de tartre,*) and evaporated the whole to dryness in a porcelain capsule; the product was of a blackish colour, and weighed about five ounces two grains. I introduced this into a tubulated glass retort, to which I adapted a receiver, and decomposed the animal matter by exposing the retort to a red heat for half an hour. When the whole was cold, I broke the vessel to ascertain whether it contained globules of mercury, but could not perceive any, although many of the fragments were tarnished with a whitish crust, which I ascertained, by the following process, to be extremely divided metallic mercury. I digested all these fragments in pure nitric acid, and obtained a light-coloured liquid, which was precipitated black by hydrosulphuret of ammonia, red by chromic acid and chromate of potass, white by muriatic acid, and black by ammonia. These facts decisively proved, that M. B. had taken a mercurial poison."—p. 85.

In the third case supposed, where the person is still alive, and although the whole of the poison has been swallowed, yet either no vomiting has followed, or the matter vomited has been thrown away, no assistance can be obtained from chemistry, and other evidence to ascertain the fact must be sought for, unless the termination should be that which our author supposes, in the fourth case, the death of the individual.

" *L'Individu est mort.*" In this event, when none of the poison nor of the vomited matter can be procured, the body must be opened, and the contents of the stomach and intestines chemically examined; and in order to preserve the whole of these, our author directs ligatures to be firmly applied at the middle of the œsophagus, upon the rectum, and upon the vessels of the intestinal surface of the liver, before detaching the digestive organs. Besides washing carefully these contents, and subjecting them to the proper tests, and examining the texture of the viscera, portions of the organs themselves are to be dried, mixed with potass, and calcined in order to obtain metallic mercury; for although it may be said, that the living stomach will resist, in some degree, the chemical action which dead animal matter exerts on sublimate, yet " it is not the less evident," says M. Orfila, " that if the stomach enclose corrosive sublimate at the moment of death, it will then act chemically upon the texture of that viscus." We are of opinion however, that even on the living body all mineral corrosives act chemically, or cause the elements of the animal fibre or soft solid parts, to enter into new combinations, and thence a reciprocal decomposition, both of the corrosive and of the part to which it is applied, is effected.

Our author next enters upon the most important of his inquiries regarding this poison; the proper treatment of a person poisoned by corrosive sublimate; but first puts the question —"*Connaît-on le contre-poison du sublimé corrosif?*" Navier answered this question in the affirmative; but the negative is the opinion held by M. Orfila, who remarks:

"The physician of Chalons drew his conclusions from facts purely chemical; mine are deduced from a multitude of experiments made upon living animals.

"Before examining in detail each of the counter poisons, let us consider what ought to be the qualities of a chemical re-agent to operate as a counter-poison.

"1. It ought to be of such a nature, that a large dose may be taken without danger.

"2. It ought to act upon the poison, whether liquid or solid, at a temperature equal or inferior to that of the human body.

"3. Its operation ought to be prompt.

"4. It ought to be capable of combining with the poison, in the midst of gastric juice, mucus, bile, or any other matter the stomach may contain.

"5. Finally, in acting upon the poison, it ought to deprive it of all its deleterious properties."—p. 90.

We shall not follow our author through his examination of the various counter-poisons proposed by Navier and others, as all of them, except albumen, were found to be perfectly inadequate to produce the desired effect. With regard to albumen, the facility with which it decomposes corrosive sublimate, and the nature of the resulting precipitate, afforded some hope of its proving useful, and therefore several experiments with it were instituted upon dogs and rabbits, from which the following conclusions were drawn:

"1. That the triple body formed by albumen, muriatic acid, and oxide of mercury at the minimum, may be taken without danger in a large dose. 2. That when a large portion of white of egg, previously mixed with corrosive sublimate, is taken, the deleterious action of the poison is very much diminished. 3. That dogs who swallowed twelve or fifteen grains of sublimate, and who were allowed to vomit, rarely died when they were made to take some white of egg diluted with water. 4. That all the animals who did not take a sufficient quantity of white of egg, died in the space of three or four hours, even when they had swallowed twelve grains only of sublimate, which accords with the fact before ascertained, that corrosive sublimate mixed with a mean quantity of albumen, yields a liquid which still contains sublimate, and which may consequently operate as a poison. 5. Finally, that of all the substances yet proposed as an antidote of corrosive sublimate, albumen only, when exhibited in sufficient quantity, has been found useful, because it may be taken with impunity, because in combining with the poison, it forms a body not at all deleterious, and because it is every where to be procured,

and can, therefore, instantly be had recourse to after the poison has been taken."—p. 102.

Having established these conclusions, M. Orfila recommends, that on the first appearance of the symptoms that characterize poisoning by sublimate, large quantities of white of egg diluted in water be given; or in default of this, solutions of vegetable mucilages, gelatinous broths, and even common water at a temperature of from 25° to 30° *Centigrade*, (77° to 86° *Fahr.*) so as to weaken the action of the poison and induce vomiting. Bleeding, emollient fomentations to the abdomen, and tepid baths, are also indicated in the commencement; but these will be of little or no avail if gangrene have taken place. If the fatal event be averted, the patient, during convalescence, should be supported chiefly on farinaceous aliment, milk, and light animal broths. For our own parts, we should be very much disposed to confide in the efficacy of the albumen, as we have no reason for doubting the accuracy of M. Orfila's experiments; but we confess, that, from our own experience, we would not rely much on mucilaginous decoctions, or the other parts of the treatment enumerated.

Having entered so fully into the consideration of corrosive sublimate, M. Orfila examines the other varieties of mercurial poisons very briefly; both because they are less likely to be employed as poisons, and the same remediable means are indicated when they have been taken.

On the subject of mercurial vapours, however, he enters a little more fully. To show what he regards as the effects of metallic mercury on those employed in the mines which produce that metal, on gilders, silverers of mirrors, and the makers of barometers, two curious cases from the Systeme des Connaissances Chimiques are detailed. The deleterious effects are exerted chiefly on the organs of sensation and volition, exciting, for example, trembling and paralysis of the different members, vertigo, loss of memory, and of the other intellectual faculties. Our own experience, however, leads us to agree with Dr. Bateman*, that the affections of the extremities are rather of a spasmodic than paralytic nature: and, except that they occur only when the attention of the patient is directed to the limb, they very closely resemble chorea. Neither can we concur with our author in regarding them as the effects of metallic mercury.

M. Orfila admits, that the action, which mercurial vapours in particular exert, does not appear to differ from that of the

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* See two cases described in the *Quarterly Report of the Carey Street Dispensary, Edin. Med. and Surg. Journ. vol.* 8, *p.* 376.

other mercurial salts on the nervous system, yet he puts the following query—" Le mercure métallique doit-il être considéré comme un poison ?" In solving this question, he quotes Zwinger, Laborde, and Paul Jalon, to show that metallic mercury acts as poison; while the practice of Dehaen, and other practitioners, and his own experiments on dogs and rabbits, seem to prove the contrary. He nevertheless concludes, rather precipitately, that metallic mercury in a degree of division, sufficiently minute to enable it to be absorbed, acts as a poison; that in the cases of poisoning by mercurial vapours, the metal is merely extremely divided by the caloric; and that mercurial ointment, the effects of which are well known, is grease united with metallic mercury only, the division of which is carried to far as to give the mixture a blackish appearance.

We cannot avoid expressing our surprise at the conclusions here stated by M. Orfila; for we were inclined to believe, that the opinion that quicksilver has any energy on the animal œconomy in its metallic state, was altogether exploded. It is very well known, that mercury is oxidized at the ordinary temperature of the atmosphere by agitation or friction; and as it is volatilized or converted into vapour at 672°*; at which temperature it combines with oxygen, and forms the red oxide, or that at the maximum of oxidation, the probability is, that in the process of gilding, &c. a portion at least of the volatilized metal is oxidized, although in a less degree; and to this its energy may be ascribed. The experiments of Vogel† have, indeed, given some colour of probability to the opinion, that mercurial ointment contains the metal in a state of mere mechanical division; but there are very good grounds for believing, that it is in the greater part oxidized; and that the oxidizement becomes more complete the longer the ointment is kept, which is rendered evident even by the deepened colour of old ointment. If newly well-prepared mercurial ointment be liquified by a gentle heat, although some unoxidixed metal separate in globules, yet, the greater part of the separation consists of the grey oxide of mercury; and the quantity of this is encreased in a ratio according to the age of the ointment. Grease, also, when thinly extended over a large surface, rapidly attracts the oxygen of the atmosphere, and facilitates the oxidizement of metals; a fact, which is manifested by the rust, speedily acquired by polished iron, and the green crust by copper when thinly covered by grease; and experience has besides proved, that rancid lard extinguishes mercury quicker than

* *Dr. Irvine.* † *Annales de Chimie, t. xxiv. p. 220.*

fresh lard*, while at the same time the rancidity of the lard is corrected; circumstances which can be rationally accounted for only by supposing that the sebacic acid, the formation of which is connected with rancidity, is decomposed, and, yielding its oxygen to the metal, quickens and renders more complete its oxidizement.

With regard to the cases quoted by our author from Zwinger and Laborde, in which metallic mercury, taken into the stomach, produced salivation; we have only to remark, that in one of these instances, four ounces of mercury were retained in the intestines nine days, and in the other seven ounces, fourteen days, during which time, it may be easily conceived, that the acidity of the primæ viæ would be able to oxidize a quantity of the metal sufficient to effect the salivary glands; and it is admitted by Zwinger, that when the metal was passed, some of the particles appeared corroded. Indeed, from every consideration of the subject, we have no hesitation in stating it as our opinion, that metallic mercury exerts no specific action on the animal œconomy.

It is not, however, our intention to assert, that mercurial vapours and mercurial ointment do not sometimes act as a poison on the system "quite unconnected with their agency as a remedy;" the contrary has been ascertained by experience. Mr. Pearson long observed this effect of mercurials at the Lock Hospital, and happily discovered a successful mode of treating it. "The patient," says he, "must be expressly directed to expose himself freely to a dry and cool air, in such a manner as shall be attended with the least fatigue†." In fact, he should be carried out daily until the symptoms abate. Our author does not appear to be acquainted with this important fact.

Such are M. Orfila's inquiries into the nature of this first species of the first class of his arrangement of poisons. Our analysis has imperceptibly extended much beyond the limits we intended it should have occupied; but we trust the importance of the subject will amply excuse our prolixity.

(To be continued.)

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* In our present Number, the short paper sent to us on this subject, is published, not on account of its novelty, but merely because it strengthens the recorded evidence of a well-known fact.—Editors.

† *Pearson's Observations on the Effects of Various Articles in the Cure of Lues Venerea.*—p. 132.

PART III.

SELECTIONS.

Experiments and Observations on the Influence of the Nerves of the Eighth Pair on the Secretions of the Stomach. By B. C. Brodie, Esq. F.R.S. *Communicated by the Society for the Promotion of Animal Chemistry. Read before the Royal Society, February 10th,* 1814.

In a paper formerly communicated to this Society by Sir Everard Home, and since published in the Philosophical Transactions for the year 1809, some facts were stated, which render it probable that the various animal secretions are dependent on the influence of the nervous system; and this opinion seemed to derive support from some physiological experiments which were afterwards instituted by myself, and in which it was observed, that after the functions of the brain had been destroyed, although the action of the heart continued, and the circulation of the blood was maintained as under ordinary circumstances, the secreting organs invariably ceased to perform their office.

It has been attempted by former physiologists to determine how far the nerves are necessary to secretion; but there are considerable obstacles in the way of this inquiry, and no observations, that have been hitherto made, appear to throw a a great deal of light on the subject. The only method which can be devised of ascertaining, by direct experiment, whether the nerves are really necessary to secretion, is that of dividing the nervous branches by which the glands are supplied. But this, with respect to the greater number of glands, is an experiment impossible to perform; and, with respect to others, cannot be executed without so much disturbance and injury to the other parts, as must render it extremely difficult to arrive at any positive results. Perhaps in future investigations some circumstances may arise which will enable us to determine more satisfactorily this important physiological question. In the mean time, as the labours of physiologists have hitherto contributed so little to this purpose, any facts that tend to its elucidation may deserve to be recorded; and I am therefore induced to lay before the society the following experiments, which afford one example of a secretion being dependent on the influence of the nerves.

The stomach derives its nerves principally from those of the eighth pair, or the *par vagum*; and the same nerves, as they assist in the formation of the semilunar ganglions, contribute to the supply of the rest of the alimentary canal, particularly of the small intestines. In an inquiry which I had formerly instituted, respecting the functions of the stomach, I divided these nerves in the neck of a dog, for the purpose of ascertaining the influence which they possess on the secretion of the gastric juice; but I was disappointed in my expectation, since the animals always died, in consequence of the disturbed state of the respiration, which the injury of the nerves occasioned, before there was an opportunity of ascertaining the effect produced on the process of digestion.

I had formerly ascertained, that in a dog, poisoned by arsenic, there is a copious secretion of mucous and watery fluid from the mucous membrane of the stomach and intestines, which are in consequence found after death completely and preternaturally distended; and it occurred to me, that although I could not ascertain the effect of the division of the nerves of the eighth pair on the natural secretions of the stomach, it might be possible to ascertain the effect on a secretion thus artificially produced. With this view I instituted the following experiments:—

Exp. 1. The nerves of the eighth pair, with the accompanying sympathetic nerves, were divided in the neck of a dog, and immediately afterwards ten grains of arsenic were inserted into a wound of the thigh. The breathing became laborious, as is usual where these nerves are divided, and afterwards the same symptoms took place, as commonly arise from the poison of arsenic, with this difference, that there was no discharge of fluid either from the stomach or intestines. He died at the end of three hours and a half. On dissection, the stomach and intestines were found to contain only food and feces, there being none of the mucous and watery secretion usually met with in an animal which has been killed in the same manner. The mucous membrane of the stomach and intestines was highly inflamed.

Exp. 2. The experiment was repeated on another dog. He died at the end of nine hours; and on dissection the stomach and intestines were not found to contain any mucous or watery fluid. Their mucous membrane was inflamed.

Exp. 3. A dog, immediately after the division of the same nerves in the neck, was made to swallow two ounces of saturated solution of white oxide of arsenic in water. He died at the expiration of three hours. On dissection, the stomach and intestines were found slightly inflamed, and they contained no mucous or watery fluid.

In these experiments the animals died from the application of the arsenic, and the poison produced the usual symptoms, with the exception of the copious mucous secretion, which takes place in other instances, from the stomach and intestines. The obvious conclusion was, that this secretion was prevented in consequence of the nervous influence having been interrupted by the division of the nerves of the eighth pair; but as this injury always induces a disturbed and laborious respiration, it was desirable to ascertain how far this circumstance might have operated towards the production of this effect; and I therefore repeated the experiment; but with this difference, that the nerves were divided in such a way as not to interfere with the functions of the lungs.

Exp. 4. Having made an incision into the abdomen of a dog, immediately below the short ribs, I divided, by means of a bistoury, the stomachic ropes formed by the nerves of the eighth pair, where they are situated on the œsophagus, immediately above the cardiac orifice of the stomach. The wound was closed by sutures. The respiration was not in the least disturbed, but was performed as frequently, and with as much ease, as under ordinary circumstances. The animal was afterwards inoculated in the thigh with the white oxide of arsenic, and he died in a few hours after the application of the poison, with the ordinary symptoms, except that there were no fluid evacuations from the stomach or intestines.

On dissection, the mucous membrane of the stomach and intestines was found inflamed. There was no watery or mucous fluid in the stomach or small intestines. There was a small quantity of mucus in the colon.

The result of this being the same as that of the former experiments, we may conclude that the suppression of the secretions in all of them was to be attributed solely to the division of the nerves: and all the facts which have been stated sufficiently demonstrate, that the secretions of the stomach and intestines are very much under the controul of the nervous system. We cannot indeed venture to deduce from them any positive conclusions respecting the necessity of the nervous influence to the secretions in general; but as forming one link in the chain of an interesting, but difficult, physiological investigation, the circumstances which have been mentioned, may, perhaps, be considered as possessing some value, and as worthy of being recorded.

It is proper to observe, that I have attempted to pursue the investigation, so as to ascertain the effect produced on the process of digestion, by the division of the stomachic ropes on the termination of the œsophagus; but various circumstances, which it would be unnecessary to enumerate, have prevented

my proceeding in the inquiry, and seem almost to render it impossible to make any observations on this subject. *Philosophical Transactions, Part I. for* 1814.

Hirundo Edulis, Lin. — This species of swallow is the builder of those eatable nests which constitute one of the luxuries of an Indian banquet. 'These birds are called *Hinlene* by the natives (of the Nicobar Islands), "and build in fissures or cavities of rocks, especially in, such as open to the south. In the latter, the finest and whitest nests are found; and I have sometimes gathered fifty pound weight of them, on one excursion for that purpose. They are small, and shaped like swallows' nests. If they are perfect, 72 of them go to a *catty*, or 1¾ pounds. The best sale for them is in China. After the most diligent investigation, I was never able to discover of what substance they are made; nor do any of the opinions of naturalists, with which I have become acquainted, appear satisfactory to me; neither have the authors alluded to ever seen the birds. They have remarkably short legs, and are unable to rise if they once fall, or settle on the ground. I caught many in this state, and, after examining them, threw them up into the air, when they immediately flew away: they cannot therefore, as some suppose, obtain their materials on the coast, or from rocks in the sea. My opinion is, that the nests are made of the gum of a peculiar tree, called by some the Nicobar cedar, and growing in great abundance on all the southern islands. Its wood is hard, black, and very heavy. From December to May it is covered with blossom, and bears a fruit somewhat resembling a cedar, or pine-apple (*top*); but more like a large berry, and full of eyes or pustules, discharging a gum or resinous fluid. About these trees, when in blossom or bearing fruit, I have seen innumerable flocks of these little birds, flying or fluttering like bees round a tree or shrub in full flower, and am of opinion that they there gather the materials for their nests. I relate the fact, having often watched them with great attention; but will not venture to affirm that I have made a full discovery. I observed before, that these birds dwell in cavities of rocks, like bees in a hive, flying in and out, and building their nests close together, like martins or swallows. The hen constructs a neat, large, well-shaped nest, calculated for laying and hatching her eggs; and the cock contrives to fix another, smaller and rather more clumsy, close to his mate; for they are not only built for the purpose of laying eggs, but for resting places, whence they may take wing. If they are robbed of them, they immediately fall to work to build others; and being remarkably active, are able to finish enough in a day to support the weight of their bodies, though they require

about three weeks to finish a nest. During the north-east trade wind, they are all alive, and fly about briskly; but as soon as the wind comes round to the south-west, they sit or lye in their nest in a state of stupor, and shew animation only by a kind of tremulous motion over their whole body. I have sometimes taken one out of his nest in this state, and laid him on the palm of my hand, when I observed no signs of life about him but his trembling; and on returning him to his place, could scarcely prevent him from falling on one side. If their nests were taken away at that season, the poor birds must inevitably perish."—*Letters on the Nicobar Islands.*

PART IV.

FOREIGN MEDICAL SCIENCE AND LITERATURE.

ANATOMY, PRACTICE OF MEDICINE, AND SURGERY.

I.—*M. Willaume*, Surgeon in Chief of the Army, and of the Military Hospital of Louvain, &c. under the late French Government, has described* the following singular case of *mal-formation of the genitals and the bladder of urine*, which came under his notice:

"A conscript of the canton of Gray, in the circle of Louvain, who was brought on the 27th October last, to the Board for the examination of recruits, displayed the following malconformation:

"At the region of the pubis, a hemispherical tumour about the size of half a pippin apple, (*pomme de rennette*), presented itself, soft, livid, and covered with a very thin skin; disappearing by pressure, then returning upon itself. It was evidently produced by the anterior part of the bladder, protruded between the pubis, the symphysis of which was either altogether or in part deficient.

"Under this tumour, there was the inferior half of a glans without the prepuce, of the usual size and shape, upon the upper surface of which, a little furrow was perceived, which made part of the canal of the ureter, through which the urine distilled, drop by drop, without the knowledge of the individual.

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* *Journal de Médicine, &c. January*, 1814.

"There was no scrotum, but on each side a thick doubling of skin, imitated very perfectly the large lips of the vulva. Between these doublings, a deep fissure, without any cavity or canal, covered with a thin and delicate epidermis, extended from the base of the half glans nearly to the anus. There were apparently no testicles; but these organs were certainly enclosed in the abdomen, as the individual, although of a small stature, yet, was fat, square, and strong limbed, and had a black beard and strong voice.

"All the parts described were covered with hair as in common cases. The place and circumstances prevented the examination from being pushed further. I may remark, that there was no deficiency of the integuments, nor of the bladder, with a continual distillation of urine from the ureters opening upon the external surface of the tumour, a species of malformation not very rare; but in this conscript, these canals seemed to open very near the half canal that furrowed the glans and the neck of the bladder, which was apparently very small and destitute of a sphincter. I have never before seen a similar case."

II.—In a work intitled "*Topographie Médicale de l'Isle-de-France*," the author, *Dr. Chapotin*, gives the following account of a disease of the lower extremities, to which the inhabitants are very liable. It appears to us to be the same malady which is endemial in the island of Barbadoes; and described by Dr. Hendy under the term, "glandular disease of Barbadoes."

Dr. Chapotin names the disease, "*engorgements des extrémités inférieures;*" it is vulgarly denominated big legs, "*grosses jambes,*" by the islanders. "It affects every sex and age, but particularly the creoles, and the women. It begins generally towards the malleolus internus of one leg only, and does not affect the other till some time afterwards; sometimes not until after some years. The swelling rarely extends to the knee. The colour of the skin is not changed; but is of a duller white, and retains the impression of the finger. At a later period, when the obstruction *(engorgement)* is considerable, the skin is then shining and a little scaly, but its texture is not altered. The continuance of the disease increases the density of the cellular substance.

"Those affected with this complaint, who are of a bilious diathesis, are liable to phlegmonous erysipelas. The inflammation commences occasionally by a slight degree of redness along the course of the lymphatics, which, by degrees, increases and extends over all the tumified part; it terminates either by resolution or by a copious mucous exhalation, which in drying

leaves thick crusts upon the skin. The symptomatic fever is more or less intense; but the lymphatic glands are never affected, or if they are, this is secondary."

CHEMISTRY.

III.—The discovery of MORICHINI, who first found fluoric acid in animal substances, and obtained it from the teeth, has been confirmed by Berzelius. He has procured this acid from other human bones besides the teeth, and also from the bones of the ox; and ascertained that every 100 parts of these bones contain two parts of fluat of lime.

He has also discovered that fluoric acid exists in urine*.

IV.—The number of the *Journal de Physique* for February last, contains some very interesting "*New Observations on the Composition of Alcohol and Sulphuric Æther, communicated to the Imperial Institution by* M. THEODORE DE SAUSSURE. The ingenious author conceives, that although his inquiries on this subject, published some years ago, were sufficient to show that æther contains more carbon and hydrogen than alcohol, yet, they were far from determining the real proportions of the elements of these two fluids. The advances which the art of analysis has made towards perfection, since the period of these inquiries, enable him now to ascertain this point with more accuracy. He assumes, as the basis of the calculations of his analysis, "the determinations of *M. M. Biott* and *Arago*, regarding the specific weight of gases, the weight of a cubic decimetre of atmospheric air being 1.293 gramme, at 0 of the centigrade thermometer, (32° Faht.), 0,76 of the barometer, and at an extreme degree of dryness. I have admitted," says he, "that in these circumstances the cubic decimetre of carbonic acid gas contains 0.5378 of a gramme of carbon, or that 100 parts by weight of that gas are composed of 72.63 oxygen, and 27.37 carbon: 100 parts by weight of water contain 88.3 oxygen and 11.7 hydrogen, the volume of these gases in this compound being as two is to one."

The first section of M. Saussure's paper, which we now present to our Readers, contains the *Analysis of Alcohol:* the second, which we must reserve for our next number, gives that of *Sulphuric Æther.*

"§ 2. *Decomposition of Alcohol by means of an incandescent Porcelain Tube.*

"The results of the analysis of alcohol, procured by burning it in a lamp, cannot be considered as correct; because a

* *Journal de Physique,* tom. lxxviii. p. 237.

part of the fluid is volatilized without undergoing combustion. When the vapour of alcohol, which remains elastic at the temperature of the atmosphere, is detonated with oxygen and hydrogen gases in an eudiometer above mercury, the combustion is complete; but the operation is very complicated, and the quantities are too small for the results to be much relied upon. By distilling alcohol very slowly through an incandescent porcelain tube, it is entirely converted into water, and a gas, the analysis of which is not difficult. As I regard this process to be more accurate than any I have mentioned, I adopted it in the following inquiries.

"The alcohol which I employed was prepared by mixing equal volumes of spirit of wine and water, and then submitting the mixture to many successive slow distillations, the first products of which only were collected; until it acquired the specific gravity 0.8302 at 17.1 of the centigrade thermometer (63° Faht.). This liquor, according to Richter's table*, was a compound of 13.8 parts of water and 86.2 parts of alcohol, which that author denominates *absolute*, and which I shall designate *alcohol of Richter:* its specific gravity is 0.792, at a temperature of 20 degrees centig. (68° Faht.).

"The results of my analysis have been reduced by calculation to those which should be obtained with the alcohol of Richter; because it is taken as the basis of the most extensive and accurate table of the specific weights of mixtures of water with alcohol, which is extant: this basis, however, is not real alcohol; for M. Hutton has obtained alcohol, with a specific gravity of 0.784, at 19° of the centigrade thermometer (66.2 Faht.), which, nevertheless, does not appear to be pure alcohol.

"I employed alcohol naturally very aqueous, or which had been rectified *per se (sans intermède)*, to avoid the objections of those who believe that the essential principles of the alcohol are altered in dephlegmating it by muriate of lime, according to the process of Richter. This alteration, which should be a purification, (since in dephlegmating the liquor it is deprived of substances which are soluble only in the water,) is manifested by slight shades of difference in the taste and colour; but it does not occasion any perceptible variation in our analyses. When two liquors contain an equal quantity of water, the differences observed between them, whether arising from the changes of specific gravity by an ulterior addition of water, or in their other properties, are too trifling to be accurately

* The correction which that table requires for the difference of temperature, was made by the tables of Gilpin.

appreciated, or to influence the results of an inquiry such as the present.

"I distilled, slowly in a water bath, through an inclined porcelain tube, made red hot, 81.37 grammes* of an alcoholic liquor, which, calculating from its specific gravity, contained 70.14 grammes of the alcohol of Richter, and 11.23 grammes of water. The products of this operation were carried through a straight glass tube about a metre and a half in length, which served the purposes of a worm, and was surrounded with ice, into a small balloon intended for receiving the liquid products, and transmitting the gases to a pneumatic trough.

"The distillation was continued fourteen hours; and furnished,

"1°. In the porcelain tube, 0.05 of a gramme of charcoal.

"2°. In the worm, 0.41 of a gramme of a mixture of volatile crystals, in thin plates, and an empyreumatic, fluid, brown essential oil, having a strong odour of benzoin. This product, whatever may be its composition, is too small to be of much importance in this analysis; that which I made of some essential oils, has demonstrated, that, in regarding the tenths only, they are composed of 0.7 of carbon, 0.2 of oxygen, and 0.1 of hydrogen. These valuations have been adopted for this product.

"3°. I collected in the balloon, and the other parts of the apparatus, 17.24 of water, devoid of colour, and slightly impregnated with alcohol, of a specific gravity of 0.9942 at 20° of the centigrade thermometer, which indicates a mixture of 16.59 grammes of water with 0.65 of a gramme of the alcohol of Richter. This quantity reduced the 70.14 grammes of the alcohol of Richter, employed in the analysis, to 64.49 grammes. The alcoholic water, above mentioned, reddened the blue colours, and had a faint taste and smell of vinegar. It formed the acetate of potass with that alkali; but the weight of the acetate was only five centigrammes: it was also rendered slightly turbid by nitrate of silver, and emitted vapours scarcely perceptible on the approach of muriatic acid; but this acid produced no considerable quantity of muriate of ammonia. Owing, therefore, to the smallness of these last results, I regard the whole of this third product as a mixture of water and alcohol, in the proportion indicated by the specific gravity.

"4°. The oxicarburetted hydrogen gas resulting from the decomposition of the alcohol, at 11.25 degrees of the centigrade thermometer, 0.7207 of the barometer, and at the extreme of humidity, occupied 87.07 litres†, which is 60.25 grammes,

* About 27 drachms. † A litre is equal to an English quart.

taking the mean of five products. It did not contain any appretiable quantity of carbonic acid gas, or at least the proportion of this gas did not exceed $\frac{1}{200}$, and was therefore neglected.

"The volume of oxicarburetted hydrogen gas, reduced to extreme dryness, at 0 of the thermometer, and 0.76 of the barometer, occupied 77.924 litres; it weighed 59.069 grammes only, by substracting 1.181 gramme of hygrometrical water, which should be added to the 16.59 grammes of water obtained in the third product."

"§ 3.—*Analysis of the Oxicarburetted Hydrogen Gas obtained by the Decomposition of Alcohol in an incandescent Porcelain Tube.*

"The cubic decimetre of this gas, dried, at 0.76 of the barometer, and 0 of the thermometer, weighed 0,75804. This weight suffered some variations in the course of the experiment; but not exceeding a centigramme. They did not depend, as I at first supposed, on the accumulation of carbon in the tube, but on the degree of heat to which the gas was subjected: when the distillation proceeded more rapidly, and the porcelain tube was less hot, more oil was procured, and a heavier gas, which contained more carbon under the same weight. Taking the mean term among all the products, 100 parts in bulk of this gas, detonated with 300 parts of oxygen gas*, over mercury, consume 121,95 parts of the oxygen in forming 81,15 parts of carbonic acid gas. It contained no azote†.

"From these premises it may be concluded, that 100 parts by weight of oxicarburetted hydrogen gas, reduced to a state of extreme dryness, are composed of

57,574	parts of carbon.
28,466	—— of oxygen.
13,96	—— of hydrogen.
100,000	

"* In my former inquiries this gas, as well as that from æther, was analysed over water.

"† To prevent any mistake regarding the absence of azote in he oxicarburetted hydrogen gas, it was analysed previously to its tanding over water, because it gives up to it the air it conceals. Alcohol does not contain any appretiable quantity of azote. I have ound, by experiments made with the apparatus of Meunier, for collecting the fluid which is formed in combustion supported by atmospheric air, that the water thus produced, whether by alcohol or by sulphuric æther, holds in solution a calculable quantity of ammoniacal salts, although it is otherwise nearly pure; but I found also

These products contain 10,189 parts more hydrogen than 32,237 parts of water reduced to its elements.

"The gas which I have analysed has this remarkable property:—*the volume of oxygen gas which it consumes in supporting its combustion, is to the volume of the carbonic acid which it produces, as three is to two.*

"The weight of the excess of hydrogen is to the weight of carbon as 1 : 5,65.

"The olefiant gas (now named *percarbonated or percarburetted hydrogen)* does not contain any oxygen; but in relation to the hydrogen and the carbon, it follows the same law as the oxicarburetted hydrogen gas, when regarded as containing more hydrogen than enters as an element into water.

"The carbonic acid is to the oxygen gas consumed in the combustion of olefiant gas, as two is to three; one hundred parts in bulk of this gas, consuming three hundred parts of oxygen gas, in forming two hundred parts of carbonic acid gas, the weight of the cubic decimetre of dry olefiant gas being 1,2642 gramme* at 0 of the thermometer, and 0,76 of the barometer. It therefore follows, that one hundred parts by weight of olefiant gas contain

85,03	parts of carbon
14,97	——— hydrogen
100,00	

"The weight of the hydrogen is to that of the carbon as 1 to 5,68; as in the oxicarburetted hydrogen gas I have analysed, when this is regarded as containing more hydrogen than enters as an element into water.

"The comparison of these two gases shews clearly, that the oxicarburretted hydrogen gas which I have examined, is only olefiant gas and water reduced to their elements; for if in the

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that pure hydrogen, and all hydrogenated substances, free from azote *(non-azotées)*, furnish, while burning, under these circumstances, either ammonia or nitrous acid, or these two substances combined; and that the azotic gas of the air disappears.

"* The weight of the olefiant gas, according to the manner in which it is prepared, may differ in some degree from my statement; but in that case, one hundred parts in bulk of this gas does not consume precisely three hundred parts of oxygen in forming two hundred parts of carbonic acid gas, and it is doubtful, whether with this modification, it is pure olefiant gas. The employment of these numbers in the limits of the observations is justified by the consideration of the combinations of bulk of the gases, in their simple relations.

analysis of the oxicarburetted hydrogen gas, the 10,189 parts of the hydrogen in excess be added to the 57,574 parts of carbon found in it, we have a compound of 67,763 parts, which is constituted like olefiant gas, while the 32,237 parts remaining after this addition are constituted like water. Thus the oxicarburetted hydrogen gas procured from alcohol by a red-hot tube, is represented by 100 parts of olefiant gas, and 47,6 of water; or in other terms, by the principles of olefiant gas, and about half their weight of water reduced to its elements."

"§ 4.—*Application of the preceding results to the analysis of the alcohol of Richter.*

"On recapitulating the products of the decomposition of alcohol by heat in a close vessel, it appears, that 81,37 grammes of alcohol, of the specific gravity 0,8302, at 17,1 degrees of the centigrade thermometer, have furnished

59,069	grammes of oxicarburetted hydrogen gas of extreme dryness,
17,771	——— of water,
0,41	——— of oil,
0,05	——— of carbon,
0,65	——— of alcohol of Richter.
77,950	
3,42	Loss.
81,37	

"The inconsiderable loss of 3,42 grammes being divided among all the preceding products, or considered as aqueous alcohol not decomposed, renders the quantity of aqueous alcohol decomposed, equal to 77,95 grammes. If these results are reduced to those which have been obtained with the alcohol of Richter, the products of the analysis remain equal to the preceding, with the exception of the water, which ought not to weigh more than 6,541 grammes; and the quantity of alcohol of Richter, which has been analysed or decomposed, is found to be equal to 66,07 grammes. If, instead of these immediate products, their elements be substituted, one hundred parts of alcohol of Richter contain

51,98	parts of carbon,
34,32	——— oxygen,
13,70	——— hydrogen.
100,00	

"In these results, 9,15 parts of hydrogen are found in excess over 38,87 parts of water reduced to its elements.

"This excess of hydrogen in the alcohol is to the carbon

in the relation of 1 : 5,68, as in the olefiant gas and the oxicarburetted hydrogen gas which are obtained from the decomposition of the alcohol. It is therefore clear, that one hundred parts of alcohol of Richter are represented by the elements of 61,13 parts of olefiant gas, and 38,87 parts of water.

"To ascertain by this analysis the volume of oxygen gas which a given weight of alcohol consumes in burning, and the volume of carbonic acid gas which it produces at the same time, the 51,98 parts of carbon must be reduced by calculation to carbonic acid gas; and it should be recollected, that the volume of oxygen gas consumed, ought to be equal to the volume of this acid gas, *plus* the half of the bulk of the hydrogen gas in excess: a gramme also of the alcohol of Richter is found to employ for its combustion, 1449,84 cubic centimetres of oxygen gas, in forming at the same time 966,54 cubic centimetres of carbonic acid gas.

"These two numbers are in the relation of 3 : 2. I conclude from these considerations, that alcohol is represented by the combination of water and olefiant gas, reduced to their elements. The alcohol of Richter, the specific gravity of which is, 0,792 at twenty degrees of the centigrade thermometer, is formed by one hundred parts by weight of olefiant gas and 63,58 parts of water. We are ignorant of the highest degree of the dephlegmation of alcohol, or real alcohol; but it is sufficient at present to have fixed the mode of decomposing this liquor, and to have indicated nearly the proportion of the elements of a mixture of real alcohol and water, in a state determined by its specific gravity."

BOTANY.

V.—If we except *Lewenhock*, no scientific observer has made so much use of the microscope as Koelreuter. His prior investigations of the minute organs of plants are well known in this country; and we conceive we are about to render an acceptable service to our botanical readers, by transferring to our pages his later discoveries in this branch of science. The essay, of which the following is a Translation, was read by him to the Petersburg Academy, on the 11th of January, 1804, and is published in the last volume of the Transactions of that Learned Body. It constitutes the fourth section of his "*Dissertatio de Antherarum pulvere;*" and is intitled "*De figura antherarum pulveris.*"

"§ 26*.—If we were to judge of the diversity of figure of the anther powder of plants, from the observations of *Mal-*

* The former sections terminated with the 25th paragraph.

phigi, *Grew*, *Geoffroy*, and *Verdries*, we could scarcely believe that it is so small as they have stated.

"§ 27.—*Malphigi*, in a general manner, calls the particles of those powders he examined globules, although some of them indeed have not the orbicular form; he, nevertheless, mentions, that the anther powder of Lilium *bulbiferum* —— *Martagon*, and —— *candidum*, the particles of which he discovered to be oblong, afford an example of a diversity of figure; the only one however noticed in his work de *Anatomia Plantarum*.

"§ 28.—*Grew* affirmed, that some species of these particles are round, some orbicular and compressed, and others cylindrical, oblong, and cubical; but that the surface of all is smooth. He afterwards however, examined the anther powder of Malva and Alcea, which he discovered to be round, but also in every part covered with small asperities.

"§ 29.—*Geoffroy* has described twenty different species of anther powder, part of which had been already noticed by *Grew*. He says, they are round, with and without asperities, oval, oblong, cylindrical, prismatic, and with four unequal sides (which *Grew* calls cubical); others resemble two globules united together; some, two cylinders placed above each other, in the form of a cross, and some are reniform.

"§ 30.—As to those of fifty different species of plants, introduced by *Verdries*, into the Acta Eruditorum*, some were new, but others had been noticed and already described by the authors above-mentioned; among them indeed, some singular and new forms appear; but *Verdries* did little more than name the plants from which they were taken, and give miserable figures of them, as had been previously done by *Grew* and *Geoffroy*.

"§ 31.—That so little was discovered up to this period, can only be ascribed to physiologists having been contented with what had been done; and was altogether due to the industry of the few celebrated men above-mentioned; as, had this not been the case, they must have conceived, that new and unknown species would certainly be found in the vast multitude of plants, differing so greatly among themselves. Although the number which I have examined by the microscope scarcely amounts to three hundred species, yet I have already detected not a few very uncommon and singular forms. How much, therefore, might be expected from an examination of all the known plants? It however cannot be denied, that although a diversity exists between the anther powder of a certain num-

* *Vide Acta Erud. Ann.* 1724, *Lips.* 4*to. p.* 409, 412, *Tab. iv. Fig.* 1, 50.

ber of plants, yet, as far as can be distinguished by the eye, it is not so great as between the plants themselves from which it is taken. I say—as far as can be distinguished by the eye; for perhaps as great, or a much greater difference might be detected in it, than among the plants themselves or any of the parts of them, if it could be made to equal these in magnitude, or if the differences could be as well recognized as in them. Nevertheless, as these may always remain hid from us, nobody would think of taking the anther powder as the foundation on which to form a system of plants.

"§ 32.—As one of our most illustrious botanists and physiologists*, the highest authority of his time, appeared to doubt whether there was a certain and determinate form of the anther powder peculiar to any plant, because, as he asserted, he had seen it more frequently of a different form in one and the same plant; I cannot omit offering my opinion on this point, hoping thereby that the doubts he raised may be easily resolved. Experience has taught me, that his observations are, generally speaking, true; for I have seen the powder of the same anther, of one and the same flower, sometimes of a different figure. But this diversity consists merely of a greater or smaller variation from its determinate form, which, under similar circumstances, is always the same. These changes and variations proceed either from pressure which some of the particles may suffer from any cause, or from their being more or less full of the peculiar spermatic matter they contain, or from their contraction or corrugation in consequence of the excretion of this spermatic matter, or its exsiccation; sometimes also, which more frequently happens, the form is varied by over-extension from too much moisture in rainy weather, which also not unfrequently bursts the little vesicle, by which, both the nucleus of cellular matter and the already prepared spermatic

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* *Ludwig*, Instit. R. V. Lips. 1757, p. 237, § 506. "Si antherarum pulverem jam excussum microscopii ope disquirimus, non quidem globulos illos pellucidos, sed particulas minimas dispersas diversam figuram sistere cognoscimus. Facile quidem largimur, hanc figuræ differentiam a variis botanicis observatam et discriptam *Geoffroy* et *Verdries*, &c. in negotio generationis, in plantarum flore perficiendo, aliquem usum præstare, quinam vero sit et an pulveris particulæ plantulas ipsas seminales sistant, definire non audemus. Exsiccatio globulorum pellucidorum, in pulverum mutatorum, non nunquam figuram mutare videtur, in pulvere ideo unius ejusdemque plantæ diversam figuram particularum conspeximus, nec in congeneribus plantis, nec in speciebus unius generis talem observamus convenientiam, quæ hanc doctrinam illustrat."

oil is at once forcibly expelled. It may also happen, that the anther powder of many plants, a short time before, or not long after the opening of the anthers, may be very tumid, large, and thick, and yet, by exposure for a length of time to the open air, it may become not only not so orbicular and turgid, but much smaller, narrower, more acute, and angular, and generally more contracted and compressed. It must, however, be understood, that this appearance with regard to the greater number of instances, is changed under different circumstances; for occasionally, some of the latter kind is found among those of the former, and vice versa; but it can be owing to fortuitous causes only, that the effects already described are produced.

"§ 33.—Again, changes of this kind take place only within certain limits; an anther powder, for example, of a triangular form, will not become quadrangular; neither does it occur, that elliptical and round powders, or cylindrical and cubical, are found promiscuously in the same flower, unless one species of anther powder be mixed with another by the wind; or, which may more frequently occur, by insects, or by some other cause. It is requisite that these things, which I have discovered from experience and observation, should be made known, that those unacquainted with the subject may not be mis-led when they meet with a great diversity of forms of anther powder mingled together.

"§ 34.—But if it be demanded, whether the anther powder of the same plant will retain its peculiar figure as long as it remains under the same circumstances? I can answer in the affirmative, from having ascertained the fact. It may, however, be justly inquired, when the same species of anther powder displays the oval form under one set of circumstances, the oblong under another, and again under a third the elliptical, which of these three is the true and natural figure?

"Although indeed I should be unwilling to undertake to answer this question, if it were urged with regard to every three; yet, in the present case, I would say without hesitation, that I believe the oblong or medium figure is nearer the natural form than the other two, because under it a greater degree of perfection and maturity is attained; and like the other parts of the flower, the powder is better fitted for the performance of its proper office; while on the contrary, under the first it is as yet immature; and under the third, it is found frequently already emptied, after having performed the functions for which it is destined by nature*. In the same manner also the

* For an account of his opinion regarding these functions, our author refers to the chapter of his dissertations, "*De vero semine masculino plantarum.*"

true and natural colour, the size and consistence of the anther powder may be easily estimated. It is also certain, that the anther powder, of every plant has naturally a peculiar and determinate figure, colour size, and consistence; but this will be made more apparent by what follows.

(To be continued.)

PART V.

MEDICAL AND PHYSICAL INTELLIGENCE.

I. LECTURES AND SOCIETIES.

School of Physic in Ireland.—The education of medical students is committed to six professors. Three of these, viz: the professors of anatomy, chemistry, and botany, are on the foundation of Trinity College, and are called the university professors. The other three, viz: the professors of the institutes of medicine, of the practice of medicine, and of materia medica, are on Sir Patrick Dun's foundation, and are called the King's professors.

The lectures on the above subjects commence on the first Monday in November, and terminate on the last day of April in the succeeding year. Dissections and anatomical demonstrations begin with December, and end early in the following April. The lectures on botany commence on the first Monday in May, and continue to the end of July.

The students in botany have the use of one extensive botanic garden, and access to another in the immediate vicinity of Dublin. The opportunities of acquiring a knowledge of other branches of natural history are also very considerable, especially of mineralogy, by means of the valuable collection of Leske which is open to the public.

The Clinical Hospital, belonging to the School of Physic, is supported by a large endowment of the late Sir *Patrick Dun.*—It is calculated to contain one hundred patients; from which number, thirty are selected for the purpose of clinical instruction and lectures.—Each of the six professors act in succession for three months as clinical lecturer and physician.—A large library of medical books, bequeathed by Sir *Patrick Dun,* is appropriated to the use of the students attending the Clinical Hospital.

Degrees in Trinity College.—There are two classes of medical students in Trinity College.—Those of one class are matriculated in the University. Three years afterwards, on producing certificates of their matriculation, and of their having attended lectures on ana-

tomy with dissections, lectures on chemistry, botany, materia medica, the institutes and practice of medicine, the clinical lectures and practice of Sir *Patrick Dun*'s Hospital, they are examined by the six professors, and obtain a diploma from Trinity College to practise medicine. This diploma confers all the advantages of the medical degrees taken in the Colleges of Edinburgh and Glasgow.

The other class of medical students in Trinity College go through the regular academical course of study. Three years after taking the degree of batchelor of arts, having likewise completed their medical education, they are admitted to an examination before the regius professor of physic, and the professors of anatomy, chemistry, and botany, in the university; and after performing the usual academical exercises, they take the degree of batchelor in medicine. Upon sufficient standing, writing a thesis, and undergoing a second examination before the medical professors of the university, the degree of doctor in medicine is conferred. These degrees rank with those in the Universities of Oxford and Cambridge.

As qualifications previous to examination for the diploma, the certificates of the professors in Edinburgh are admitted for any three of the courses required to have been attended, with the exception of the clinical lectures, which must have been in the School of Physic in Ireland.

Certificates of attendance on the professors in the School of Physic in Ireland, are received in the Universities of Edinburgh and of Glasgow, as giving standing in those places.

St. Thomas's and Guy's Hospitals.—The Winter Course of Lectures at these adjoining Hospitals will commence in the first week of October: viz. At St. Thomas's: Anatomy and the Operations of Surgery, by Mr. Astley Cooper and Mr. Henry Cline: Principles and Practice of Surgery, by Mr. Astley Cooper. — At Guy's: Practice of Medicine, by Dr. Babington and Dr. Curry: Chemistry, by Dr. Babington, Dr. Marcet, and Mr. Allen: Experimental Philosophy, by Mr. Allen: Theory of Medicine, and Materia Medica, by Dr. Curry and Dr. Cholmeley: Midwifery, and Diseases of Women and Children, by Dr. Haighton: Physiology, or Laws of the Animal Œconomy, by Dr. Haighton: Structure and Diseases of the Teeth, by Mr. Fox.—These several Lectures are so arranged, that no two of them interfere in the hours of attendance: and the whole is calculated to form a complete Course of Medical and Chirurgical Instruction. Terms and other Particulars may be learned at the respective Hospitals.

Dr. Clarke and Mr. Clarke will begin their Winter Courses of Lectures on Midwifery and Diseases of Women and Children, on Monday, October 3d. The Lectures are read at the House of Mr. Clarke, No. 10, Saville Row, Burlington Gardens, every morning from a quarter past ten to a quarter past eleven, for the convenience of Students attending the Hospitals.

Dr. Davis, Physician, Man-Midwife in Ordinary to the Queen's Lying-in Hospital, will commence his first Winter Course of Lectures on the Theory and Practice of Midwifery, and on the Diseases

of Women and Children, on Wednesday, the 5th of October, at a quarter past ten o'clock in the forenoon.

Dr. RAMSBOTTOM will begin his Lectures on Midwifery, on Thursday, October 6th, at six o'clock in the evening, at his House, No. 9, Old Jewry.

Mr. BRANDE will commence his Lectures on Materia Medica, &c. at Apothecaries' Hall, on Tuesday the 4th of October, at two o'clock.

Dr. HOOPER and Dr. AGER will commence a Course of Lectures and Examinations on the Theory and Practice of Physic, Chemistry, and the Materia Medica, on Monday, October 3, at the Theatre of Anatomy, Blenheim Street, Great Marlborough Street.

THE SMALL POX HOSPITAL, St. Pancrass, Middlesex, has now taken the title of The Hospital for Small Pox, for Inoculation, *and for Vaccination.* The Inoculation for Small Pox is restricted to the House, but Vaccination is performed to Out-patients.

The Meetings of the London Medical Society, which were discontinued during the Summer Months, were resumed on Monday the 26th of September, at eight o'clock in the evening, and are continued every Monday evening at the same hour.

The Meetings of the Physical Society will re-commence on Saturday, October 1st, at seven o'clock in the evening, and continue every succeeding Saturday, at the same hour, during the winter. The dissertation for the first evening's discussion is on Mr. Hunter's axiom, "that no two actions can take place in the same constitution, nor in the same part at the same time."—By Mr. Ellerby.

LONDON INFIRMARY FOR THE DISEASES OF THE EYE, IN CHARTER-HOUSE SQUARE.—Gentlemen are admitted to see the Practice of this Infirmary. Particulars may be obtained from the physician, J. R. Farre, M.D.; or the surgeons, B. Travers, Esq. and Wm. Lawrence, Esq. F.R.S.

II. LITERARY NOTICES.

MR. JOHN HENNEN, Surgeon to the Forces, is preparing a Practical Account of the "*Gangrena Contagiosa Nosocomiale,*" or Hospital Gangrene, as it appeared at His Majesty's General Hospital at Bilbao (Spain), in the autumn of 1813: with Cases and Dissections, illustrative of the Rise, Progress, and Terminations of the Disease, and its Effects on the various Parts of the Animal Structure.

Dr. UNDERWOOD has in the press a third edition of his work on the Diseases of Children.

III. CHEMICAL INTELLIGENCE.

Sulphuret of Antimony.—Dr. THOMSON has ascertained the composition of this sulphuret, by the following method of analysis: "Into a large phial I put 100 grains of the pure ore, in the state of fine powder, and poured over it a quantity of nitromuriatic acid. When the action was over, I decanted off the liquid portion, and treated the undissolved residue with fresh portions of acid, till I had reason to be satisfied that all the metallic part of the ore was taken up. The residuum, being now dried, had all the appearance of sulphur. It weighed ten grains, and, when kindled, burnt away with a blue flame, leaving no appretiable residue.

" The acid solutions, being mixed together, were poured into about a quart of distilled water, in order to precipitate the oxide of antimony. For greater security I then saturated the acid in this watery solution with ammonia. The white precipitate, being separated by the filter, was well washed and dried. In this state it weighed 93.5; and, as far as I could judge, was pure oxide of antimony. The watery liquid, thus freed from the antimony, still contained a considerable portion of sulphur, which had been acidified by the action of the nitric acid. Accordingly, when muriate of barytes was dropped in, a copious precipitate of sulphate of barytes fell. This precipitate, when washed and dried, weighed 119.3 grains, equivalent to 40.57 grains of sulphuric acid, or to 16.23 grains of sulphur. From the preceding analysis it appears that 100 parts of sulphuret of antimony contain 26.23 parts of sulphur; therefore the sulphuret in question is composed of

" Antimony - - - - 73.77 - - - - - 100.000
" Sulphur - - - - - 26.23 - - - - - 35.556"

If we suppose that the foregoing analysis is correct, and that sulphuret of antimony " is a compound," says Dr. Thomson, " of two atoms of sulphur and an atom of antimony, we have this analogy, *35.556: 100: 4: an atom of antimony.* This would give us the weight of an atom of antimony 11.249."—*Annals of Philosophy,* No. 20, p. 96.

Diabetic Urine.—Dr. John has found that diabetic urine, although devoid of urea and gelatine, yet contains azote, sugar, animal gum, urate of potass, sulphate of potass, muriate of soda and ammonia, phosphate of magnesia, and phosphate of iron." —*Annales de Chemie,* tom. lxxxviii, p. 100.

Water of the Nile.—According to Dr. Clarke the traveller, who analyzed this water, it contains the carbonates of magnesia, lime, and iron; the muriate of soda; and a small portion of silex and alumen. It is one of the purest of known waters; remarkable for its easy digestion by the stomach, and for its salutary qualities in all the uses to which it is applied. The mud or slime left by this water is found to consist principally of alumen in a state of great purity; it contains half its weight of this substance; the rest is carbonate of lime water, carbon, iron-oxide, silex, and carbonate of magnesia. It is found a sufficient manure for the land, without any dung.

Gum of Lichens.—M. Pallas having stated that the Cossacks of the Oural use as bread the Lichen *esculentus,* in times of scarcity, under the name of bread of the desert, *Kirchoff,* a Russian chemist, was desired by the Petersburgh Academy to analyze this species of Lichen, and also that denominated *Corolloides.* He found in 100 parts of the first species thirteen parts, and in an equal quantity of the second fourteen parts of a transparent gummy matter, of a yellow colour approaching to brown, and perfectly analogous to gum Arabic; the relations which the solutions of this substance and of the true gum Arabic have with other bodies being exactly the same. *M. Kirchoff* found that the gummy matter is more abundant in these Lichens, if they be collected before they have arrived at complete maturity.—*Mem. de l'Academ. de St. Petersburg,* tom. iii, p. 76.

A METEOROLOGICAL TABLE,

From August the 21st, to September the 20th, 1814,

Kept at *Derby,* Lat. 52°: 58′ N.—Lon. 1°: 30′ W.

M	D	Therm. Morn.	Therm. Day.	Barom.		Hyg.	Wind.	Rain.	Remarks, &c.
S	21	51	63	29	.89	317	S	.37	Dull and Rainy
	22	47	68		.96	402	Calm	.17	Light Clouds, Rainy
	23	54	70		.71	377	S	.27	Clouds, Ditto
	24	52	64		.72	377	Calm	.91	Dull, Ditto
	25	53	65		.71	380	S	Dew	Ditto
	26	52	65		.95	406	NW		Light Clouds
	27	46	62	30	.02	402	NW		Ditto, Rough Wind
S	28	46	67		.08	447	N		Fine
	29	47	69		.16	390	Calm		Cloudy & Little Sultry
	30	56	76		.25	390	W		Heavy Clouds, & Sultry
	31	59	72		.39	372	N		Dull and Sultry
	1	56	70		.45	407	W		Light Clouds, Ditto
	2	41	66		.35	437	Calm		Dull, Clear
	3	48	64		.32	400	N		Ditto, Cloudy
S	4	42	66		.37	467	E		Ditto, Fine
	5	39	66		.24	444	NW		Frost Air, Clouds
	6	46	66		.05	420	W	.01	Cloudy, Light Shower
	7	48	58	29	.86	290	N	.11	Dull and Rainy
	8	51	61	30	.20	361	N		Ditto
	9	45	66		.23	399	N		Fine
	10	45	61		.24	430	N		Light Clouds
S	11	43	62		.29	414	N		Ditto
	12	41	63		.28	410	N		Ditto, Dull
	13	37	64		.23	428	N		Fr. Ditto
	14	39	66		.25	478	Calm		Fr. Fine
	15	37	69		.20	444	S		Fr. Clear
	16	37	71		.12	482	S		Fr. Clear, Calm A. M.
	17	38	71		.10	481	S		Fr. Clear
S	18	38	76		.10	507	S		Fr. Light Clouds
	19	42	74		.14	520	S		Clear
	20	45	72		.00	436	S	.09	Thick Mist, Fine, Shower

Rain fallen in Aug. 2.76 inches.

During the greater part of August there was an almost daily succession of light showers, which continued to the 25th, when the wind changed to the NW.; the atmosphere cleared, and was succeeded by fine drying days, with but one exception, until last night about 7 P. M. The latter end of August was sultry; the wind W. or calm. On the morning of the 5th there was a heavy frost in the country, although the thermometer marked 39°. We have generally found the air to be 3 or even 4 degrees warmer in the town than in the country. There was a frosty air on all the mornings marked Fr.; but the wind being S., the thermometer rose to a considerable elevation in the day, and on the 18th the difference between the night and day was 28°.

A REGISTER of the DISEASES of LONDON between August 19th and September 20th, 1814, for the London Medical, Surgical, and Pharmaceutical Repository.

DISEASES.	DISTRICTS. 1 S.W.	2 S.	3 S.E.	4 E.	5 N.E.	6 N.	7 N.W.	8 W.	9 Surry side W	10 Surry side E.	11 Hamp Highg	No. of Cases.	Fatal.
Anorexia							1	1				1	
Anasarca	7	2		2	5	10	5	1	3			35	2
Ascites				4	1	7	5		1	2		20	2
Asthma	9	2	3	2	6	18	6				2	48	1
Acne	1								1			2	
Apoplexia	2		2	1			2	1	1	1	1	11	4
Aphtha		6	1		6	3			4	3		23	
Amenorrhœa	8		3		1	1	3	1	3	1	2	23	
Asthenia	6	6	5	3	21	2	1		10	5	4	63	2
Abortio	3		1		4	1			1	3		13	
Bronchitis acuta	4	1			2					1		8	1
——— chronica					6			1				7	
Cancer	1											1	
Chlorosis	3		2					1	2		3	11	
Cholera	3	2	5	4	23	9	32	3	5	14	8	108	3
Chorea					1			1				2	
Cephalalgia	2	7	6	1	8	7	9	4	4	9	2	59	
Colica	4	7	3	18	7	1	5	3	7	5	1	61	
Colica Pictonum	1			1			1					3	1
Catarrhus	16	10	9	6	22	11	30	20	3	5	3	135	
Convulsio		3		2	2	6	1	4		2		20	1
Carditis		2		2		1		1				6	1
Cynanche Tonsillaris	6		6	7	9	4	11	12	3	8	7	73	
——— maligna		3			1	1		3				8	1
——— Trachealis.	1			2	2							5	1
——— parotidea.						3						3	
Dysuria		1			1		3					5	
Dysenteria	1	3	2	2	12	6	5		2		2	35	
Diarrhœa	26	18	26	4	29	20	32	26	14	13	43	251	1
Dyspnœa	5	4		3	1	3	1	1		2		20	
Dyspepsia	10	7	17	22	10	1	29	16	7	2	14	135	
Eczema					1					2		3	
Erythema					3							3	
Erysipelas	1	6	4	2	5	3	3	6	3	2	3	38	
Enteritis	2	5	2					1	1	2		13	3
Entrodynia		22	8		4			4	5		5	48	
Epistaxis				1		1						2	
Epilepsia				2	1		2			1		6	
Febris remittens	12	22	6	9	33		9	12	4	9	10	126	
—— intermittens	5	3		7	2		1	1	3		2	24	
—— puerpera				2				1				3	
Gastritis				1			1					2	
Gastrodynia	20	6	5	12	3	2	3	1	6	8	5	71	
Hæmatemesis				1	1	1	3			1		7	1
Hæmoptoe	6	2	1	8	2	3	3	3	2	4	1	35	
Hæmorrhois	2		4		5	2	1	2	4	1		21	
Hepatitis	3		5	12	10		4	2	2	7		45	2
Hysteria	3		4	3	7	3	4	6	5		2	37	
Hysteritis				1								1	
Hydrocephalus				1		1					2	4	3
Hydrothorax						5				1		6	1
Herpes	2		3	4	3		3	1	4		4	24	
Hypochondriasis	1	1	2		4			3	5			16	

DISEASES.	DISTRICTS. 1 S.W.	2 S.	3 S.E.	4 E.	6 N.E.	6 N	7. N.W.	8 W.	9 Surry side W	10 Surry side E.	11 Hamp Hghgi	No. of Cases.	Fatal.
Icterus	3		2	2	2	3	1	1	2			16	
Impetigo	2	1			4		1					8	
Ischuria	1		1		3							5	1
Leucorrhœa	5	3	5	2	5		7	2	5	1		35	
Lithiasis	2							1				3	
Lepra					3					1		4	
Lichen								1				1	
Mania	1				4		5					10	
Menorrhagia	9	6	4	1	6	5	9	4	7	5	3	59	
Miliaria					1							1	
Morbi Infantiles*	16	6	13	7	13	15	13	36	11	62	7	199	3
——— Biliosi	9	3	31	11	13	2	9	22	8	57	6	171	
Nephritis				1	1		1	2		1		6	1
Obstipatio	9	1	5	9	7	5	11	2	4		3	56	
Ophthalmia	7	8	1	2	4	20	11	3	5	3	7	71	
Odontalgia	1					1			2			4	
Phlogosis	4		2	1					1			8	
Paralysis	1			4	1	8	2	3	1			20	
Phthisis Pulmonalis	5	1		4	7	15	8	3		3	1	47	9
Pemphigus	1											1	
Pertussis		3		3	1	4	7	2		12		32	
Peritonitis			2	3			3	1	2	1		12	
Phrenitis							2	2				4	1
Pneumonia	1	3	3	9	7	6	19	6	8	4	2	68	2
Pleurodyne			2		3	3			1			9	
Podagra	1		1		3		1	2				8	
Porrigo larvalis		1	1	1	1							4	
——— scutulata	1		4		2							7	
——— favosa	1				3							4	
Pompholyx								1				1	
Psoriasis				1					2			3	
Purpura	1											1	
Pyrosis	4	4	3	2	2		1					16	
Rachitis	1			1						1		3	1
Rheumatis. acut	11	13	7	7	7	9	5	3	3	4		69	1
——— chron.	7		9	2	20	7	36	3	8	9	5	106	
Rubeola				5	25	9		4	5	13	3	64	
Scabies			2	14	7	19	55		2			99	
Scarlatina simplex	3	2		2		1	2	3	2	1		16	
——— anginosa		2		2		2	2		3	1		12	1
Scrofula	6	1	2	1	3	6					2	21	
Synochus				1	2	1				5		9	
Tabes Mesenterica			2	2	1		1	1	2		2	11	
Typhus			2	7	13	9	3					34	6
Variola			3	7	4	2	4	4		1		25	2
Varicella			2		3				3	3	3	14	
Vermes	7		5	4	4	6	1		4	5		36	
Vertigo	4		4	5	4	5	3	4	5	5		39	
Urticaria	2	6		1	2		2		2	1		16	
Total No. of Cases	302	215	253	276	455	299	443	259	213	313	170	3198	
Total of Deaths													59

* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Biliosi*, such Complaints as are popularly termed *bilious* but cannot be accurately classed.

*** *To render the Returns of Diseases full and complete, and with as little trouble as possible to Practitioners who will honour them with their assistance, the Editors will be happy to present printed Tables to any respectable individual who applies for them, and is willing to keep and return a Monthly Register of Cases occurring in his public or private practice. The returned Registers should be sent to Mr. BURROWS, Bloomsbury Square, between the 20th and 23d of every month.*—☞ The EDITORS will be infinitely obliged to their Reporters, if on the backs of their Registers they will insert any disease not mentioned in the list, and briefly notice any thing remarkable in the cases, or in the remedies applied. It is particularly requested that the fatal termination of every disease reported in the previous or present table be carefully noted in the column for Deaths.

abstracted from the arm, a blister was applied round the neck, and a brisk purgative administered. On the following day all the urgent symptoms had disappeared, and in a few more convalescence was complete.

In some cases of Febres, there was a remarkable determination to the head, with torpor of the intestinal canal; an attention to which seemed the certain way of obviating the danger. One case of Hysteria was apparently excited by a blow on the right mamma, leaving a considerable mark. The first symptom was profound sleep, which continued some hours, and from which the patient was at last roused by pressing on the bruised breast.

In two of the cases of Synochus, a spontaneous ptyalism appeared on the 14th and 20th days; from which periods an evident amendment in both patients took place.

One case of Phthisis was accompanied with Aneurism of the Aorta, which ruptured into the œsophagus, and produced instant death. Upon examining the head of one who had died from Phrenitis, layers of coagulable lymph were observed under the dura mater from effusion.

In the Register for August, there were eight cases of puerperal fever, four of which were in one Reporter's practice, and three of them terminated fatally. Four other cases have since occurred; and they have recovered with difficulty. He says, "these unfortunate cases are more than have fallen to my lot to witness for the last twenty years, though my obstetrical practice has been extensive.

"The first of the eight, was a young woman about twenty years of age, of delicate structure, brought to bed of her second child March 2nd, after an easy natural labour. On the fourth she was attacked with a shivering fit, followed by fever, and great abdominal pain; on the eleventh she died. Bleeding, purging, glysters, fomentations, and blisters, were actively employed, and the antiphlogistic regimen pursued without relief.

"The second was a young woman about twenty-two years of age, of a more robust habit, who suffered twenty-four hours in lingering labour. On the 18th of June she was delivered; on the 20th she was attacked with severe rigor, succeeded by great arterial action, and acute abdominal pain. On the 21st her existence terminated, after great suffering, being only thirty-six hours from the period of attack. She was five times copiously bled from the arm, several leeches were applied, and fomentations, glysters, and blisters were prescribed, and a rigid cool regimen adopted.

"The third was a woman about thirty-six (first pregnancy); she lost blood one month before parturition. Had bred with hepatic affections, and had consulted two medical gentlemen of respectability previous to her engaging my attendance. The labour was lingering, being forty-eight hours from its commencement to its termination; owing to the rigidity of the parts, and a disproportioned pelvis. The puerperal symptoms commenced June the 24th, being three days after her confinement, and she died on the 28th. The abdominal pains ceased suddenly, three hours before death, with cold sweats, but perfect sensibility of mind remained till half an hour before dissolution. The same treatment was adopted in this as in the former cases. The same evening I inspected the body, but there was no disorganization of the abdominal, or pelvic viscera, to account for the symptoms. The liver, spleen, and kidneys were large, and the small intestines, mesentery, omentum, rectum, bladder, uterus, and its appendages, were perfectly healthy, except a small blush on the jejunum and ilium, like a slight blood-shot eye.

"The fourth was a woman very hypochondriacal, who suffered severely from nervous affections during the whole of her pregnancy. She was thirty-eight years of age, and mother of several children. On the 21st of June she was delivered of a fine healthy child, after a few hours easy and regular

labour. On the 24th she was attacked with symptoms similar to the former patients, and did not become properly convalescent till a month after. Copious and repeated bleedings, with similar auxiliaries, as in the other cases, were the means of relief.

"In each of the above cases the lochia was scanty, the secretion of milk complete, the head much affected by pain, the skin hot, but moist, the pulse elastic, and very quick, varying between 120 and 140; the urine high coloured with deep yellow deposit; stools, when procured, dark olive green colour, slimy, and very offensive.—Calomel with extract of colocynth, and infusion of senna with phosphate of soda, sometimes aided with castor oil, were the purgatives employed. After the bowels were cleared of much feculent matter by the more active purgatives, the action was kept up by small doses of sulphate of magnesia dissolved in almond emulsion.

"The four subsequent patients were similarly treated; and shewed no symptoms of convalescence, till the alvine secretion assumed a natural appearance."

The following singular and melancholy case recently happened:—A lady, aged 27, of a delicate though healthy constitution, was delivered of her second child. The labour was natural, and quick; but the placenta was retained much longer than usual. It was at length brought away by manual assistance without any unpleasant symptom occurring. She went on remarkably well, and suckled her infant. On the ninth day she was to all appearance perfectly well. She had been reclining on the sopha, and on attempting gently to get into bed, with proper assistance, suddenly fell forward on the bed as if fainting. She complained of violent pain about the region of the præcordia, exclaimed she was dying, and begged that a Physician, living within two doors, might be sent for. She drank a little sal volatile and water. In about ten minutes from the attack, just after the Physician entered the room, she expired without a sigh or a struggle. A request to open the body was made; but the consternation attending so unexpected a calamity prevented an immediate answer. In six and thirty hours the corpse was so enormously swollen, livid, and offensive, that the intent of examining into the cause of this sudden death was obliged to be abandoned.

Monthly Prices of SUBSTANCES *employed in* PHARMACY.

		S.	D.
Acaciæ Gummi elect.	lb.	3	6
Acidum Citricum		28	0
—— Benzoicum	unc.	6	6
—— Sulphuricum	P. lb.	0	8
—— Muriaticum		2	0
—— Nitricum		4	0
—— Aceticum	cong.	4	6
Alcohol	M. lb.	4	6
Æther sulphuricus		10	6
—— rectificatus		12	0
Ærugo	lb.	6	0
Aloes spicatæ extractum		6	0
— vulgaris extractum		5	6
Althææ Radix		1	3
Alumen		0	5
Ammoniæ Murias		2	6
——— Carbonas		4	0
Amygdala dulcis		5	9
Ammoniacum (Gutt.)		8	0
——— (Commun.)		3	6
Anthemidis Flores		2	3
Antimonii oxydum			
——— sulphuretum		1	0
Antimonium Tartarizatum		6	6
Arsenici Oxydum		1	0

		S.	D.
Assafoetidæ Gummi-resina	lb.	6	6
Aurantii Cortex		4	6
Argenti Nitras	unc.	6	9
Balsamum Peruvianum	lb.	30	0
—— Tolutanum		20	0
Benzoinum elect.		10	0
Calamina præparata		0	6
Calumbæ Radix		3	6
Cambogia		12	0
Camphora		9	6
Canellæ Cortex		3	6
Cardamomi Semina opt.	lb.	12	0
Cascarillæ Cortex		4	6
Castoreum	unc.	5	0
Catechu Extractum	lb.	2	4
Cetaceum		3	0
Cera alba		4	0
—— flava		3	6
Cinchonæ cordifoliæ Cortex (yellow)		8	6
—— lancifoliæ Cortex (quilled)		10	6
—— oblongifoliæ Cortex (red)		16	0
Cinnamomi Cortex		16	0
Coccus (Coccinella)	unc.	4	0
Colocynthidis Pulpa	lb.	8	6
Copaiba		7	[illegible]

		S.	D.
Colchici Radix		3	6
Croci stigmata	unc.	4	6
Cupri sulphas	lb.	1	0
Cuprum ammoniatum		4	0
Cuspariæ Cortex		4	0
Confectio aromatica		12	0
— Aurantii		3	6
— Opii		6	0
— Rosæ Caninæ		2	0
— Rosæ Gallicæ		2	6
— Sennæ		1	8
Emplastrum Lyttæ		7	6
— Hydrargyri		3	0
Extractum Cinchonæ	unc.	3	0
— Cinchonæ resinos.		5	0
— Colocynthidis		3	6
— Colocynthidis comp.		1	6
— Conii		0	8
— Gentianæ		0	6
— Glycyrrhizæ	lb.	4	6
— Hæmatoxyli	unc.	0	8
— Humuli		0	6
Extractum Hyosciami	unc.	1	0
— Jalapæ - 2s. 0d.	Res.	3	6
— Opii		3	6
— Papaveris		1	0
— Rhæi		2	6
— Sarsaparillæ		1	0
— Taraxaci		0	8
Ferri carbonas	lb.	1	0
— sulphas		1	3
Ferrum ammoniatum		5	0
— tartarizatum		4	6
Galbani Gummi-resina.		10	0
Gentianæ Radix		1	0
Guaiacum		6	6
Hydrargyrus purificatus		5	6
Hydrargyri Oxymurias	unc.	0	9
— Submurias		0	9
— Nitrico-Oxydum		0	9
— Oxydum Cinereum		1	4
— Oxydum rubrum		5	6
Hydrargyrus præcipitatus albus		0	9
Hydrargyri Sulphuretum rubrum		0	8
Hellebori nigri Radix	lb.	2	6
Ipecacuanhæ Radix		20	0
— Pulvis		22	0
Jalapæ Radix		6	3
— Pulvis		7	0
Kino		12	0
Liquor Plumbi Acetatis	M. lb.	1	8
— Ammoniæ		2	6
Linimentum Camphoræ comp.		6	0
Lichen Islandicus	lb.	1	8
Lyttæ		12	0
Magnesia		9	0
Magnesiæ Carbonas		3	0
— Sulphas, opt.		1	4
Manna optima		7	6
— communis		5	6
Moschus pod, 28s.	in gr. unc.	36	0
Mastiche	lb.	6	6
Myristicæ Nuclei		24	0
Myrrha elect.		8	6
Olibanum		3	0
Opoponax		26	0
Opium (Turkey)		32	0
Opium (East India)		31	0
Oleum Amygdalæ	lb.	4	0
— Anisi	unc.	2	9
— Anthemidis		6	0
— Cinnamomi et Cassiæ		8	0
— Caryophilli		5	6
— Cajuputi		6	6
— Carui		1	9
— Juniperi Ang.		4	0
— Lavendulæ		4	0
— Lini	cong.	7	6
— Menthæ piperitæ	unc.	5	0

		S.	D.
Oleum Menthæ viridis Ang.	unc.	5	0
— Olivæ	cong.	23	0
— Olivæ secundum		12	0
— Pimentæ	unc.	5	0
— Ricini optim.	(per bottle)	10	6
— Rosmarini	unc.	0	9
— Succini 2s. 4d. —	rect.	4	0
— Sulphuratum	M. lb.	1	6
— Terebinthinæ		1	9
— — rectificatum		2	3
Papaveris Capsulæ	(per 100)	3	6
Plumbi Carbonas	lb.	0	8
— Superacetas		2	6
— Oxydum semi-vitreum		0	8
Potassa Fusa	unc.	0	9
— cum Calce		0	6
Potassæ Nitras	lb.	1	0
— Acetas		8	6
— Carbonas		1	6
— Supercarbonas		4	6
— Sulphas		1	4
— Sulphuretum		2	6
— Supersulphas		0	6
— Tartras		3	6
— Supertartras		1	10
Pilula Hydrargyri	unc.	0	9
Pulvis Antimonialis		0	8
Resina Flava	lb.	0	5
Rhæi Radix (Russia)		38	0
— (East India)		16	0
Rosæ petal.		9	0
Sapo (Spanish)		2	6
Sarsaparillæ Radix		7	0
Scammoneæ Gummi-Resina	unc.	2	6
Scillæ Radix siccat	lb.	5	6
Senegæ Radix		4	0
Sennæ Folia		7	0
Serpentariæ Radix		21	0
Simaroubæ Cortex		4	6
Sodæ Boras		4	8
— Sulphas		0	10
— Carbonas		7	0
— Subcarbonas		1	3
— — exsiccata		5	0
Soda tartarizata		3	0
Spongia usta		24	0
Spiritus Ammoniæ	M. lb.	4	0
— — aromaticus		4	0
— — fœtidus		4	0
— — succinatus		5	0
— Cinnamomi		3	0
— Lavendulæ		4	6
— Myristicæ		3	6
— Pimentæ		3	6
— Rosmarini		4	0
— Ætheris Aromaticus		6	6
— — Compositus		6	6
— — Nitrici		4	0
— — Sulphurici		6	6
— Vini rectificatus	cong.	28	0
Syrupus Papaveris	lb.	2	3
Sulphur		0	8
— Sublimatum		0	8
— Lotum		1	0
— Præcipitatum		1	2
Tamarindus opt.		2	6
Terebinthina Vulgaris		0	10
Terebinthina Canadensis		7	6
Terebinthina Chia		9	0
Tragacantha Gummi		8	6
Valerianæ Radix		1	10
Veratri Radix		1	6
Unguentum Hydrargyri-fortius		5	6
— — Nitratis		2	8
— — Nitrico-oxy.		3	0
Uvæ Ursi Folia		2	6
Zinci Oxydum		6	0
— Sulphas purif.		2	6
Zingiberis Radix opt.		2	6

Prices of New Phials per Gross.——8 oz. 70*s* —6 oz. 58*s*.—4 oz. 47*s*.—3 oz. 43*s*.—2 oz. and 1½ oz. 36*s*.—1 oz. 30*s*.—half oz. 24*s*.——The London Glassmen allow 10 per Cent, ready money.——The Manufacturers in the Country, where all Phials are made, allow 27½ discount, at three months credit, (carriage free,) to London.

Prices of second-hand Phials, cleaned, and sorted.——8 oz. 46*s*.—6 oz. 44*s*.—4 oz. 35*s*. 3 oz. 30*s*.—2 oz. and all below this size, 23*s*.—Three months credit.

English Hirudines, 8*s*. per dozen at Covent Garden Market.

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Instructions sur l'Entretien des Dents et des Gencives; sur le Propriété d'une liqueur utile pour la guerison de leurs affections, et pour un grand nombre d'autres cas maladifs. Par M. Ricci, Chirurgien-Dentiste de S. M. L'Empereur de Russie, &c. A Paris, chez l'Auteur, rue des Fossés-Montmartre, No. 27.

INDEX INDICATORIUS.

Dr. Blegborough's *interesting case of ruptured uterus, with an engraving, will appear in our next number.*

Dr. Armstrong *will accept our thanks for his attentive communication and kind offer.*

The Observations on Theorising in Medicine, and on Herpes præputialis, by A Physician, *are received; as are also communications from* Dr. Turner, *and* A. B.

Various Notices of Lectures, &c. came too late for insertion in the present Number.

Communications intended for insertion in the subsequent Number, should reach us before the 12th *of the month. They are respectfully solicited, and should be addressed (free of expence) to* Mr. Burrows, *Bloomsbury Square: by whom Books for the Review Department, Articles of Intelligence, &c. &c. will also be received.*

CASE OF RUPTURED UTERUS.

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Kirkland del. | Bragg sc.

For the London Medical Repository _ Vol. 2. p. 361.